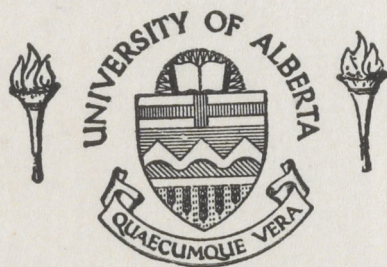


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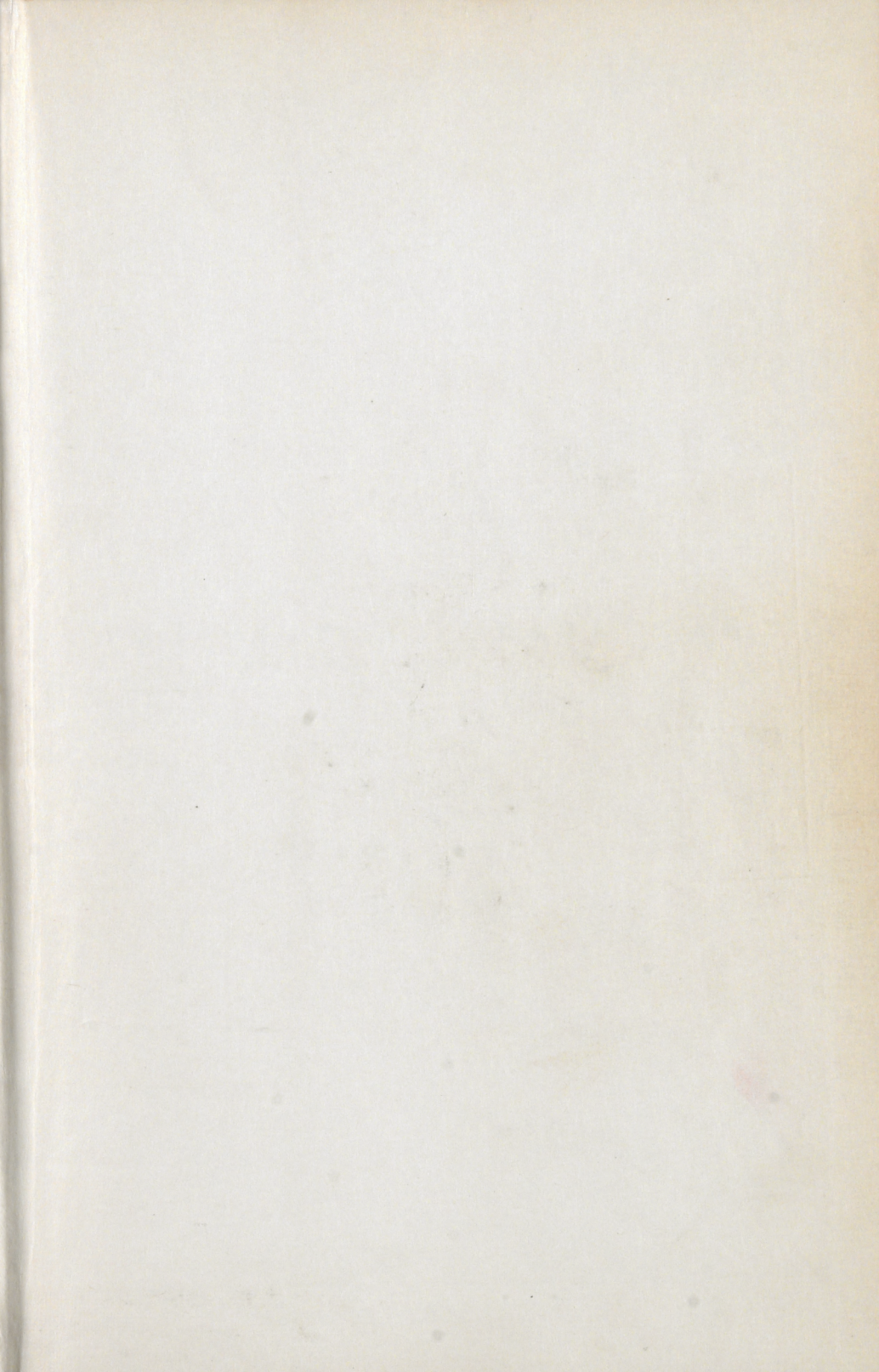
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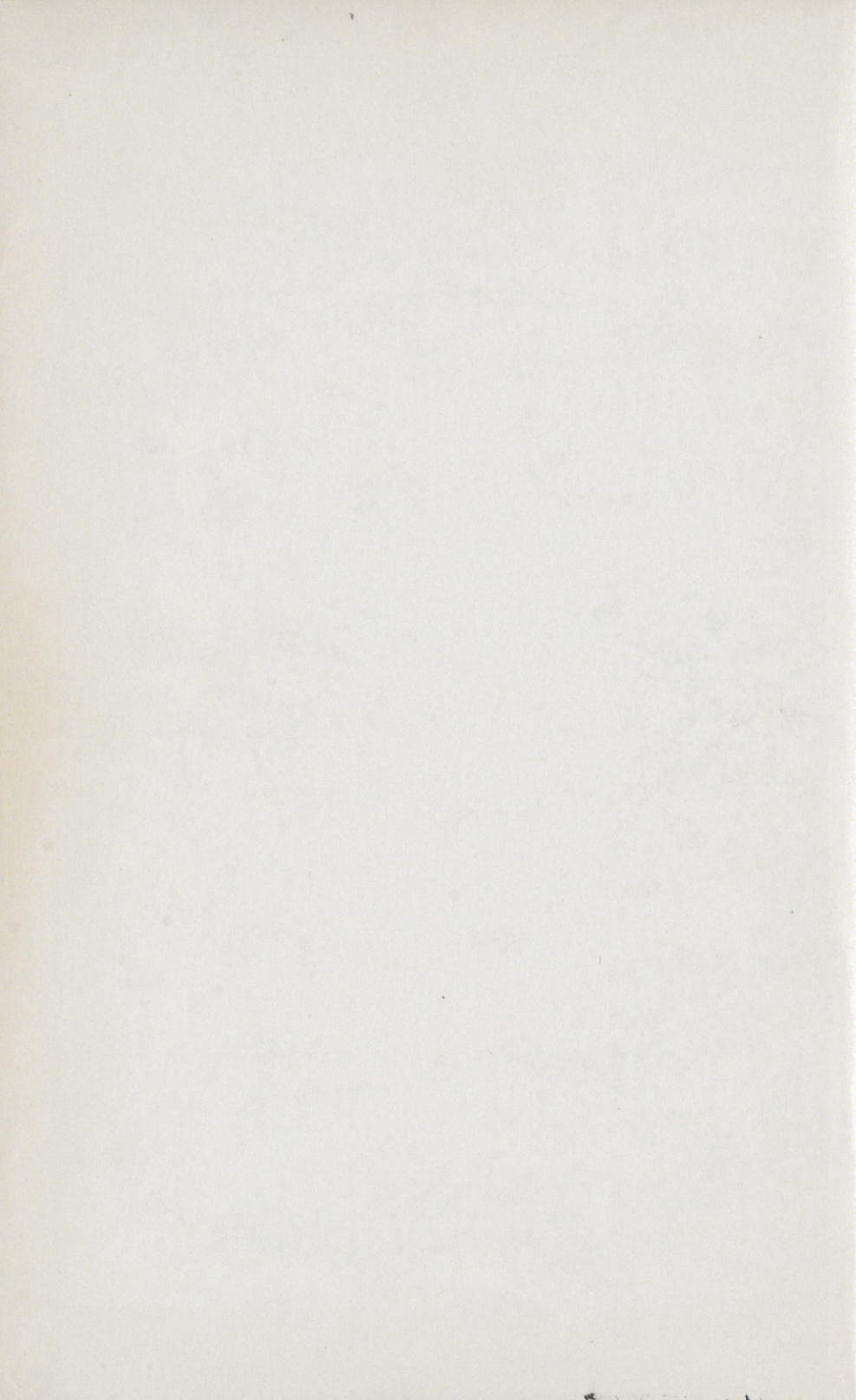
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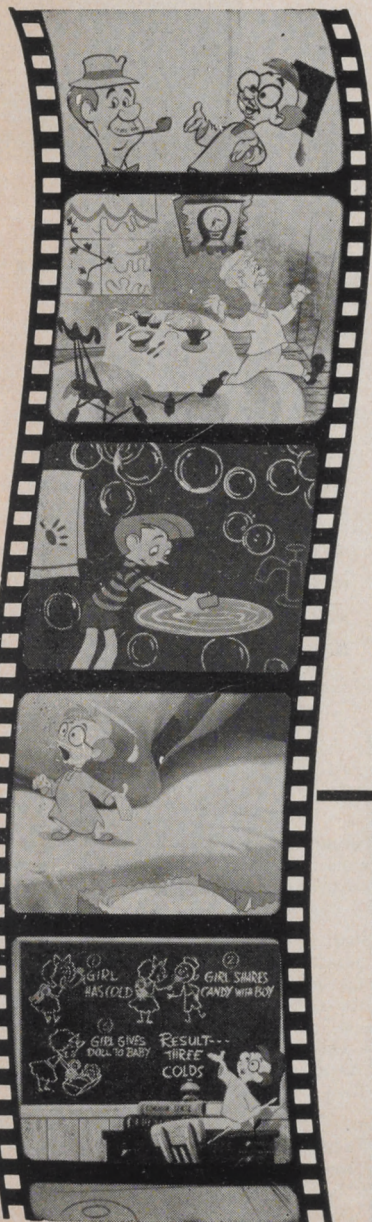
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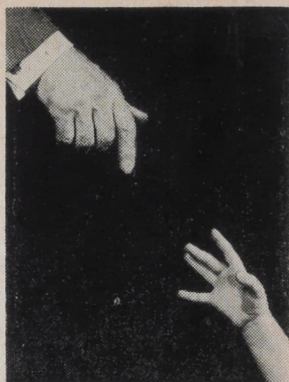
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THE MONTH'S COVER STORY

Children are our business. Through the doors of the nation's schools this September have trooped thousands of Canada's greatest resource—its young people. The helping hand of the father for his daughter, the teacher for his pupil, are manifestations of the urge to help our children to a better world. In this human endeavor the home and the school are inseparable.



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the **ATA** magazine

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The Right to be Different

One of the more significant trends of the twentieth century is a surge toward conformity. Conformity itself takes many phases. We are not prepared to argue whether it is good or bad that people are becoming more and more, not only 'look-alikes' but also 'live-alikes'. What we are concerned about is that the right to be different, indeed, the business of just being different, becomes suspect in a swing toward sameness. Some observers claim that our life and times are beset by a cult of conformity which exists at all levels in our society and which is unfortunately becoming increasingly popular in the thinking of governments.

Democracies have always prided themselves in their respect for the rights of the individual, but some say that, constitutional guarantees to the contrary, the right to be free is being menaced by attempts at thought control. Attempts at thought control are often quite difficult to expose. People who believe that they know how other people should think press toward control by indirect and devious measures. In this connection, it is interesting to note that Canada's governor-general has been reported recently to have said that the intellectual duty of the university is to remain free. Many Canadian universities may find it increasingly difficult to be free when their financial support comes very largely from governments. The same situation to a greater or lesser degree may apply to our public schools. It's the old story of "he who pays the piper calls the tune."

The custodian of intellectual freedom is the school. History records that powerful pressures have always

attempted to shape the forms and objectives of education. In itself, this situation has not been wrong. The problem comes when governments which are not truly democratic attempt to shape the forms and objectives of education to suit selfish purposes. It is against that threat to freedom that our schools must stand.

In any fight to preserve the integrity of schools, teachers are caught in the middle. They are, or at any rate should be, the first line of defence and should be quick to detect selfish interest in pressures attempting to change the programs of our schools. If our schools reflect every pressure from society, then they simply mirror the prevailing force. On the other hand, if they resist every pressure for change, they may well be standing in the way of normal progress. Naturally, neither of these extreme positions should be taken by our schools and school people. However, in order to detect honesty and sincerity of purpose on the part of advocates of change, teachers must have a highly developed sense of the place of free schools and free teachers in our society. They must recognize attempts to control their thinking and they must resist such attempts at all costs. Socrates' cup of hemlock is the classic example of the price exacted by society from an individual for the right to be different — for the refusal to conform.

There should never be any question of the willingness of a teacher to stand on principle. The preservation of real democracy depends upon the incorruptibility of teachers individually and collectively. And this is a sobering reflection.

The problem becomes the more important against the background of the controversy concerning what our schools are doing and how they are doing it. The curriculum of our schools is important, but not nearly as important as the type of person who is teaching in our schools. Competency in subject matter and methodology is necessary in the business of teaching, but knowledge of subject matter and skill in communication alone never make a teacher the custodian of our culture. Great teachers measure all they say and do on the yardstick of intellectual freedom; they value the right to be different as a fundamental liberty. They will never compromise principle with expediency.

(By) HOWARD ECKEL

How Can We Get Quality

ASK the next five people you meet how they define quality teaching and you'll get five different answers. But this you can count on: they will remember, at most, two teachers who really made an impact on their lives—two who could be called 'quality' teachers.

What is quality teaching and how do we get quality teachers? I recently asked this question of a number of people—strangers I found myself sitting next to on trains and planes and professional colleagues whose business it is to help develop quality teachers. These people varied in attitude about their teachers and their children's teachers. Some of the things I learned are encouraging about the future of our public school system; others suggest that all is not well in the public mind about teachers.

The comments made concerning experiences with teachers lead one to believe that few of them are remembered as being effective and influential. Apparently, most people have never experienced a really close relationship or maintained a lasting friendship with any of their teachers. Many do not look upon their teachers or their school experiences as being particularly pleasant or effective. (Perhaps this explains why school development programs that include teachers' salary increases have rough going when people are asked to dig deep for school support.)

On the other hand, a great teacher has a deep and lasting effect on people.

Many teachers interviewed—especially those who love to teach—said they decided to become teachers because of the influence of one or two teachers in their lives. Those who were fortunate enough to have worked with master teachers talked about them with warmth and enthusiasm.

Quality teaching cannot be defined by the amount of subject matter taught or specific methods or techniques utilized. Neither can it be described as traditional, progressive, modern, child-centred, or teacher-centred. Effective teaching is a deeper qualitative relationship between teacher and learners. It is geared to a more basic purpose than the mastering of facts or the learning of certain skills or the development of specific behavioral characteristics. One person who visits many classrooms expressed it this way, "I can feel great teaching. I can tell by the climate of the classroom whether children are growing, reaching out and expressing the best in themselves."

What is this deeper quality of teaching which permeates the whole classroom and deeply influences all learners? Perhaps when we speak of great teachers we are describing a kind of person and the accompanying level of personal relationship which he is able to establish. It certainly seemed true with the persons interviewed. These people did not say of their favorite teacher, "She was great because she taught me English", or "I think of this teacher because he main-

Teaching?

Our culture must place a high value on teaching and improve materially methods of selection and professional preparation.

tained control over me". Rather, they expressed a quality of relationship existing between themselves and the teacher; they spoke of the teacher's total personality.

What kind of person does it take to be a quality teacher? What are his personality characteristics? What does he believe? How does he view himself, other people, and the world in which he lives? Are there deep personality and attitudinal characteristics common to quality teachers?

Great teachers live comfortably with themselves. They have self-respect and self-assurance and are, therefore, not afraid to act, to express themselves, to reach out, to make mistakes, to be wrong. They are aware of their own strengths and limitations. Because they are personally secure, they are neither highly elated nor deeply depressed by positive or negative feelings expressed by others. They are what we call self-accepting people.

These persons are also accepting of other people. They are able to relate effectively with individuals quite different from themselves. They are not threatened by persons of another social, economic, racial, religious or political background. Rather, they have great confidence in the ability and potential of others. They do not seem to be highly evaluative of others; instead of classifying people as good, bad or indifferent, they see others as unique, different

human beings. They are challenged by wide individual differences and they use these differences in their relationship for personal development.

Values are consistent but flexible

This is not to say that such accepting people have no values or convictions of their own. They have thought through what is important for themselves. They have a consistent but flexible set of values by which they live. They do not, however, assume that others should hold the same values. They neither feel the need to change the other person's point of view nor defend their own. They extend to all men the right to build their own perceptions of themselves and their world.

In a sense, quality teaching is similar to the role of a gardener who wishes to propagate a number of unidentified seeds. He can concern himself only with the general conditions under which a seed grows. Each plant is unique and has special needs which it communicates to the gardener through signs of its individual development. The expert gardener knows these signs and gives attention to them. The gardener must depend on the wisdom of the plant to determine which and how much of each substance in its environment it will need.

And so it is with the teaching of children. A teacher can best spend his efforts in creating a climate in which the learner can unfold and blossom.

The climate is all that the teacher can control. The learner controls who he is and what he may become.

Such a self-directed learning climate is beautifully expressed in this passage from Kahlil Gibran's *The Prophet*: "No man can reveal to you ought but that which already lies half asleep in the dawning of your knowledge. The teacher who walks in the shadow of the temple among his followers gives not of his wisdom but rather of his faith and his lovingness. If he is indeed wise, he does not bid you enter the house of his wisdom but rather leads you to the threshold of your own mind."

Quality teachers find ways to express their deeper selves with learners. They develop processes by which ideas, feelings, attitudes, desires, and purposes are communicated among learners. While each has his own unique process, all great teachers have many elements in common.

They are keenly aware of and sensitive to the culture in which learners live. They try to understand how each learner feels about his environment, his home, his family, his church, and community. They strive to identify with the learner as the learner unfolds his world to the teacher. These teachers concentrate on the way learners see themselves rather than on the views others have of the learner. This means that a teacher must take time to know each of his learners.

Quality teachers have the ability to listen for the meanings of others. Listening which has as its purpose the control of the learner leads to his resistance, defensiveness, and desertion. Listening which has as its purpose the support of the learner in his search for higher self-realization helps him to think through his problems, resolve his doubts, clarify his purposes, and express his creativeness. When we sincerely listen to others, we are saying, "You are important to me", "I want to know you better", "You are capable of doing great things", "I believe in you".

Differences among us are just as natural as our likenesses. People differ

not only in their biological characteristics, but also in the interests, goals, and values they hold. Each of us possesses a very special self in the way he thinks and believes and the way that he expresses himself to the outside world. Quality teaching takes these differences into account by finding ways to help each person work through his values, interests, and aspirations and by aiding him in discovering his special potentialities.

Learning environment

The learning climate or the quality of relationships within the learning situation is basic to bringing out the best in all learners. If a teacher accepts all learners and communicates this acceptance, the same quality is likely to develop among children, that is, children are likely to understand, like, and learn from each other. When great teaching is in evidence, there is relative freedom from fear, insecurity, frustration, and anti-social behavior. Under such conditions learners seem to be productively occupied with creative activities and self-improvement.

Great teachers like people with whom they work, and they love to teach. They find real satisfaction in seeing each pupil unfold and blossom. They are willing and eager to give much of themselves to help others. In a sense, with the master teacher, teaching is in itself the maximum reward.

Quality teachers are deeply interested in and have a broad knowledge of their environment. This is not so much expressed by excellence in a certain field of study as it is in an outgoingness of the total personality. While they may concentrate on one or more fields of interest, their unique quality is a keen awareness of the relationship of the various phases of man's culture.

Those who work with these great teachers are impressed with the knowledge and enthusiasm communicated by the teacher. Usually, the pupil catches some of his teacher's spirit for investigation. When the teacher is a true student

seeking better answers to man's problems, the pupil, too, becomes a student of his environment.

Great teaching is a way of life. It involves the whole of the teacher—who he is, what he thinks, what he believes, where he is going, how he looks at himself, other people, and the world in which he lives. Quality teaching also includes the ways that teachers express themselves in the learning situation.

How do we get quality teachers? What can we as citizens or professional people do to improve the quality of teaching?

Reflects a cultural problem

In a large sense, the problem of quality teaching is more than an educational problem; it is a cultural problem. Teachers are likely to reflect values held by the larger social group. If a culture values material things—powerful automobiles, big houses, fur coats, cabin cruisers—we can expect that teachers and children will also attach value to these things. If the culture sees income as an index of the receiver's worth, teachers too will likely hold this belief. If we are to bring about any deep, lasting improvement in teaching, it is necessary that we examine the many larger problems of our culture.

Apparently our culture does not place a high value on teaching. How many young people aspire to become teachers? How many parents say approvingly, "My son is studying to become a teacher." How many teachers are proud to say, "I am a teacher." Our reluctance to pay teachers a salary comparable to other professions is indicative of their low niche in society's totem pole.

And it follows that the quality of teaching we can expect from our teachers will be comparable to the value that our culture places on teachers. If we, as parents, behave toward our teachers as though they have little value or worth, they will probably treat our children in a similar way. Parents can help develop great teachers for their children through their personal and group behavior toward teachers.

If the quality of teaching is to be improved, attention must be given to the selection and preparation of teachers. The present system of teacher education is not providing the number or quality of teachers needed. Under the present plan too few young people are selecting teacher-preparation programs and too few people are remaining in the teaching profession to fulfill present needs.

We also need to examine academic and professional programs for preparing teachers. There is a widespread feeling among college personnel that little can be done to develop deep personal qualities—those qualities associated with the mature person or the great teacher. They say such qualities are either inherent or fixed in the child's early years. If we accept this position we must admit that we can be concerned only with the veneer of the future teacher.

Perhaps the problem is that our main concern has been with the learners' veneer—gathering of facts and techniques—therefore, we do not see what else might be done. There is growing evidence that when people work together on problems important to them in a supportive friendly climate relatively free from threat and fear, they grow in their basic qualities of human personality which are so important in the teaching process. If, however, colleges are to stress these deeper qualities, it is necessary that they give up some of their window-dressing orientation.

One reason that we have difficulty recruiting, developing, and keeping quality teachers is that we clutter schools with so many things that are peripheral to the deeper purposes expressed through quality teaching. Whole school staffs often devote attention to the peripheral because they lack purpose and understanding necessary to help young people in their development. As long as schools stress such things as punitive details they will not attract great teachers or stimulate their learners to become teachers.

Reprinted from *The School Executive*, June, 1958.

A New Look at Old Figures

For the first time in our life
the study of mathematics
is becoming respectable.

J. L. SLATTERY

LATE in 1956 the publishing firm of Simon and Schuster found occasion for great joy. At the same time rival publishers were startled, dismayed, and even downright angered. The cause of these opposite reactions was the spectacular success of Simon and Schuster's *The World of Mathematics*, a four-volume boxed set priced at \$20. Within a few months of publication the orders for this 2,535-page opus had topped 100,000.

Now, if any author had gone to almost any major publisher and said, "You know, I believe that over 100,000 Americans will put out twenty bucks for a four-volume work on mathematics", he would have gotten about as much of a hearing as a musical-saw maestro at Carnegie Hall. The notion that mathematics might be a highly salable commodity was not merely ludicrous, but almost repellent.

It turned out to be entirely correct. How much money Simon and Schuster and James R. Newman, who edited *The World of Mathematics*, can expect to gain from their venture is something for publishers to make educated guesses

about. It is fairly certain that they will gain enough to retain a very affectionate feeling for a subject that most people have always regarded with extreme distaste.

It is improbable that all those who have bought a set of *The World of Mathematics* will read all four volumes. But it is also apparent that the traditional attitude toward mathematics is changing. No proof of this fact is more evident than the two articles on arithmetic published in *Esquire* a magazine whose interest in mathematics had previously been limited to a preoccupation with the geometry of curves. Book publishers, recovering from their shock at Simon and Schuster's triumph, have rushed out with a motley array of volumes on mathematics, some new, some old as McGuffey's readers, to capture a market they had never thought existed. The titles of many of these books understandably try to sell the sizzle, not the steak—you can have *Fun with Mathematics*; you can amuse your friends with your *Mathematical Tricks and Puzzles*; after a hard week's work watching television you can indulge restfully in *Mathematical*

Recreations; most beguiling of all, perhaps, if you are sedate and sixty but still young at heart, you can go *Romping through Mathematics*. The paperback publishers have not yet caught up with the trend, but they are no doubt already designing covers. They might just as well start with Ada Augusta, the Countess Lovelace, who was Lord Byron's daughter. A proficient math amateur, she understood automatic computers and was writing about punched-card methods half a century before IBM was ever heard of. It's fairly easy to imagine what the paperback cover artists would work up for her. We'd see a desperate feminine form frantically fleeing from some frightful fate, while across the cover screamed the title: "A Lust for Math . . . She Had a Woman's Body—But a Man's Mind". The purchaser of this book might feel a bit let down when he began reading it and came across such passionate passages as: "Let it be proposed to obtain the Nth function of $F(a, b, c, \dots, x)$, x being the variable."

There is no real danger, of course, that books like *Peyton Place* will be toppled from best-seller rank by new editions of Euclid, but there seems no doubt that the reading public's newly awakened interest in mathematics will continue to grow. One reason is that mathematics, for the first time in our history, has become financially respectable. Americans have seen children earn immense cash prizes on television quiz-programs by solving mathematical problems that would have easily stumped most college graduates. Mathematicians, today, can often earn higher salaries than sales managers and college athletes.

Mathematics is becoming respectable in other ways, too. The public has learned that mathematics can do things. It can help make atomic bombs, guided missiles, and Sputniks. It is also helping automation along at a brisk clip. Confronted with these demonstrations of the mathematician's powers, we have come to accept him into the community of useful folk along with engineers, doctors, businessmen, construction workers, and

movie stars. We have decided that our children had better absorb a little mathematics along with "sand pile management", "finger painting", "selecting the family television program" and other survival courses.

The result of all this is that a youngster or an adult who has any interest in, or curiosity about, mathematics need no longer feel that there is something wrong with him. Times have changed. Instead of sneaking down to the basement to read a mathematics book, he can read it openly on the train or bus, just as if it were the Kinsey Report or Havelock Ellis.

There is, of course, a large group of people who rank mathematics a few steps below bubonic plague, or feel that it is an invention of the devil. But a much larger segment of the population has become interested in the subject, yet feels somewhat confused about it. These people know that mathematics is extremely useful in engineering and science, but they're not quite sure how. They also know that there is something more to mathematics than its applications to engineering and science, but they're not sure of what it is. "What, exactly, is mathematics?" they ask.

Oddly enough, this question is almost impossible to answer. Probably the best answer to it is to say that "mathematics is what mathematicians do". And if you ask, "Well, what do mathematicians do?", the best answer to that would be, "Mathematicians do mathematics".

This isn't quite as nonsensical as it sounds. The truth is that mathematics is not easily defined in any other way. Such definitions as "Mathematics is the science of numbers" . . . "Mathematics is the study of quantity and extension" and so on, are not acceptable to mathematicians.

Anyone who says that mathematics is a deadly subject can get a very lively argument these days, says the author.

A very famous mathematician, Bertrand Russell, once defined mathematics as "the subject in which we never know what we are talking about, nor whether what we are saying is true".

Of the incorrect notions of mathematics that many people have grown up with, probably the most serious is the conviction that "mathematics is the one thing that never changes. It's the same today as it was 2,000 years ago". Nothing could be further from the truth. Not only is mathematics not the same as it was 2,000 years ago, it's not even the same as it was two days ago. All over the world, mathematicians are busy changing it. Today we may have half a dozen new algebras that didn't even exist a year or two ago. A graduate student in New York may just have completed a mathematical proof that shows that some other proof invented last year by a professor in Japan was really not a proof after all.

Like the notion of its unchangeability, another incorrect but widely held idea of mathematics is that of "absolute mathematical truth". People will point to, say, a proposition in geometry and announce that "it is eternally true". Well, let's see. Here are three statements:

1. *The sum of the angles of a triangle is equal to 180 degrees.*
2. *The sum of the angles of a triangle is less than 180 degrees.*
3. *The sum of the angles of a triangle is greater than 180 degrees.*

Which of these statements is true? The fact is that all of them are true. But each is true only for a particular kind of geometry. The first statement is true only for Euclid's geometry, while the second is true for Lobachevski's, and the third for Riemann's.

This kind of situation comes up constantly in mathematics. Thus we have:

$$\begin{aligned} 1 + 1 &= 2 \\ \text{and also} \\ 1 + 1 &= 1. \end{aligned}$$

Both of these apparently contradictory equations are true! The first is based on

ordinary algebra. The second is based on a different kind of algebra, one that is extremely useful in the design of telephone systems and automatic computers. Similarly, it is true (in ordinary arithmetic) that $5+4=9$, and it is also true (in "modulo-7" arithmetic) that $5+4=2$.

Surprising as these facts may be to a person whose interest ended with high school geometry, they present no real mathematical problems. Somewhat more disturbing, on the other hand, were the paradoxes that emerged from George Cantor's development of the "theory of sets" toward the end of the last century. Would you agree that "the whole is greater than any of its parts"? This treasured maxim was badly dented by Cantor's subtle thinking. Today we can say that this statement is—and also is not—true, depending on whether we are dealing with finite or with infinite "wholes" and "parts". Suppose, for example, that we write down the set of natural numbers—1, 2, 3, and so on indefinitely. There is no limit to them. They form an infinite set. But now let us select from the set of all natural numbers only the even numbers—2, 4, 6, etc. It's immediately obvious that we can match each of the natural numbers, including both the odd and the even numbers, with an even number, thus:

1	2	3	4	5	6	7	8	9	10	11	12	13
2	4	6	8	10	12	14	16	18	20	22	24	26

and so on, to infinity. We see there are as many even numbers as there are natural numbers—and yet the set of even numbers is only a part of the set of natural numbers!

Cantor's theories caused tremendous commotion among mathematicians, but worse was still to come in the mischievous person of Bertrand Russell. Bright-eyed and sharp-featured, he pecked at the very foundations of mathematics and logic, unearthing some worms of most disquieting shape. Consider the following sentence: "This statement is false." Like certain deadly cocktails, it goes down smooth and sweet, but a moment later—

wham! Another example is the famous "Barber of Seville" paradox. This states that the barber in the Town of Seville shaves all those people and only those people in Seville who do not shave themselves? Question: "Does the barber shave himself?" Either "yes" or "no" leads to a contradiction.

As a result of the kind of thinking that these puzzles represent, not only mathematicians but also logicians have been in turmoil for over half a century. The unexpected situation they've been put in is that of knowing that mathematics and logic work without really knowing why they work.

Not only does mathematics (including logic) work, but each year sees important new applications of it. One of the most promising developments is the use of mathematics in solving the administrative problems of business and industry. Suppose, for example, that you and some other executives of your company are trying to decide where to establish several new warehouses. You want to pick the locations that will ensure the lowest overall operating expense. A great many factors must be considered. This is the kind of difficult business problem that today is being attacked by a new mathematical technique called "linear programming". The petroleum industry was one of the first to make use of linear programming. The new technique replaced unreliable guesswork with an exact mathematical answer to the important question: "What is the most profitable combination of our various gasoline blends?"

The rapidly growing use of automatic computers is enabling businessmen to apply mathematics profitably to problems that formerly could not be attacked mathematically because of the horrendous amount of data involved. That difficulty has, in large measure, been eliminated by the new computers. The widespread use of automatic computers has made an extremely practical device out of what might otherwise have remained a minor item in mathematical theory—the binary number system. Instead of

the ten digits (from 0 to 9) that make up our common decimal system, the binary system has only two digits, 0 and 1. It is very simple to express ordinary decimal numbers in terms of their binary equivalents. Here is a table for the first few:

Decimal		Binary Column Values			
		8	4	2	1
0	is	0	0	0	0
1	is	0	0	0	1
2	is	0	0	1	0
3	is	0	0	1	1
4	is	0	1	0	0
5	is	0	1	0	1
6	is	0	1	1	0
7	is	0	1	1	1
8	is	1	0	0	0
9	is	1	0	0	1
10	is	1	0	1	0
11	is	1	0	1	1
12	is	1	1	0	0

Binary numbers are used in most automatic computers because they are very neatly adapted to electronic tubes, relays, or any other kind of device that can be either lit or unlit but has no in-between position. The binary "0" can be represented by a tube (or a desk lamp, for that matter) that is unlit, the binary 1 by a tube that is lit. In dealing with logical problems, the binary "0" can be used to represent "false" and the binary "1" to represent "true".

A great many business problems are nothing more than very complicated problems in logic. When these problems have been stated clearly in logical form, automatic computers can often be used to help solve them. A very useful technique here is symbolic or mathematical logic, which allows translation of ordinary language into more convenient symbols. For example, the statement, "An employee with 20 years' service is entitled to three weeks' vacation", can be translated into "A—) B". Here the "A" means "20 years' service", the "B" means "entitled to three weeks' vacation", and the symbol "—)" means "implies". When

an idea has been expressed in symbolic logic, it is then easy to put the logical sentences into a numerical-code form that can be handled by an automatic computer.

How far it will be possible to go in using these machines to help solve administrative problems is still an open question. The technique seems limited only by the extent to which it is possible to translate business problems from words and feelings into the symbols of modern logic and mathematics. Once a problem has been stated in those terms, a machine can work on it as effectively as the human mind can.

The role that mathematics has played in the development of engineering and the physical sciences is too well known to need comment. Less widely known, and until now, less successful, has been its role in the development of the biological and social sciences. It is almost certain, however, that in the years ahead these too will take on an increasingly mathematical form and, as a result, will progress far more rapidly than they have so far.

It used to be that a fairly clear division was recognized between "pure" and "applied" mathematics. The distinction has just about disappeared. In the past, it was the boast of "pure" mathematicians that their discoveries had no practical use and would never have any. The truth is that more and more of their "useless" discoveries are being put to all sorts of practical applications. There never was a purer "pure" mathematician than the late G. H. Hardy of Cambridge, who not only believed, but fervently hoped, that none of his mathematical work would ever be "useful". As it turned out, one of his more abstruse discoveries found very practical application in the theory of furnace-temperature measurement. How poor Hardy would have hated that!

Quite a few people today who have grown curious about mathematics nevertheless feel that it must remain an eternal mystery to them, a strange land full of X's and Y's and squares on the

hypotenuses. Often they'd like to understand mathematics better, but they don't know where to begin.

The usual starting point, under the modern approach, is the "natural numbers"—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, . . ., on and on without end. We take these as "given" and develop all other numbers from them. For example we invent "0" by saying that it is the number we get when we subtract any number from itself: ($1 - 1 = 0$). And we invent negative numbers by saying that they are what we get when we subtract a larger number from a smaller one: ($2 - 3 = -1$). The numbers we call fractions we invent to express the operation of dividing one whole number (or integer) by another: ($1 \div 2 = \frac{1}{2}$). And so the process goes, step by step building up in quite logical fashion what we know as arithmetic.

We can do a lot of useful calculations with mere arithmetic, but its power is limited by the very fact that it deals with concrete numbers. Arithmetic tells us that " $3 + 5 = 8$ ", " $9 + 4 = 13$ " and so on, but it can't tell us what the sum of any two numbers is. Algebra, on the other hand, can. It does this by using symbols that are more general than numbers are. These symbols are letters. By writing " $a + b = c$ " we automatically include every particular instance of addition such as " $2 + 5 = 7$ ", " $46 + 31 = 77$ " and so on.

Its ability to express mathematical relationships and operations without using concrete numbers is what gives algebra its great power. Without it, mathematics would still be back in its primitive age.

Many people have the impression that mathematics is sharply divided into neat little departments—algebra, geometry, trigonometry, calculus, and so forth. Such a division is largely an artificial one and in modern teaching is often ignored. The students are taught mathematics as a whole, not as a group of seemingly unrelated parts. This is more in keeping with the nature of the subject anyway. The farther you go into mathematics,

the more all its departments fuse together. Advanced geometry, for example, is almost entirely a combination of algebra and calculus.

We spoke, a few moments ago, about the traditional division between pure and applied mathematics, a division that exists today only in the attitude that some mathematicians have toward their subject. To a practical-minded person, one of the most fascinating things about mathematics is the interplay between pure mathematical theory and the very practical necessities of the real world. An outstanding instance is the history of the mathematical symbol "i". Because of its seemingly unreal nature (as the square root of "minus-one"), even the mathematicians who invented it thought of it a rather ghostly item and called it "imaginary", one of the most unfortunate misnamings in history. They took for granted that "i" could never possibly have any practical application. But the truth is that the so-called "imaginary" number "i" is no more—or, less—imaginary than "3", "14.7", " $\frac{2}{3}$ " or any other number, and it turned out to be extremely useful in electrical engineering and in all kinds of other applications. The same thing has happened to many other mathematical inventions that nobody thought would ever prove useful. An outstanding example is the theory of matrices. Invented by the British mathematician Cayley just a hundred years ago, matrices remained almost unknown, except to mathematicians, until fairly recently. Today they are being used in everything from aeronautical engineering to management consulting.

The process works in reverse, too. Mathematics has often advanced into new growth out of the pressure exerted

by some practical problem. The operational calculus was invented by Oliver Heaviside, the British electrical engineer, in order to solve some problems that had resisted other mathematical attacks. And probability theory, which is useful in everything from life insurance to war strategy, got its start because some French noblemen who spent much of their time gambling asked mathematicians like Fermat and Pascal to give them some help. Almost 300 years later an interest in poker led the late John von Neumann to develop the "theory of games", which may prove quite important in any future war.

For some reason or other, mathematics and extreme youth go together. The history of mathematics flashes with the names of men who achieved some of their outstanding creations in their teens and early twenties. At 16, Pascal proved an important geometrical theorem that bears his name. Newton was only 23 when he invented the calculus. Niels Abel died of poverty and tuberculosis at 27, but he "left mathematicians something to keep them busy for 500 years". Poor Galois had little happiness in his 21 years of life, but that did not stop him from becoming one of the great creative spirits in the history of mathematics.

What changes in human life mathematics will bring about in the near and in the distant future, nobody knows for certain, but we can make some pretty good guesses. Sputnik II and Explorer, which still circle calmly about our planet, are forcefully dramatic proofs of the power that lies in the complex symbolism of mathematics. And they are just the beginning.

Reprinted from **The Kiwanis Magazine**,
March, 1958.

September 21-27 is Junior Red Cross Week in Canada. More than a million Canadian boys and girls are learning what Red Cross means—what mercy means—through the Canadian Red Cross. The Junior Red Cross is the world's largest youth movement, with 45 million members in 71 countries.

Canadian Junior Red Cross members contributed \$218,464 to their Handicapped and Crippled Children's Fund in 1957. This money provided assistance for 2,154 children. They contributed \$50,862 to their Fund for International Help and Understanding, from which help was extended to children in 17 countries.

Industry and the universities need each other, but industry needs the university more than the university needs industry.

Industry and Education

INDUSTRIAL support of education is a twentieth century phenomenon. There are no precedents, no rules, no examples to guide the donors. Corporate giving has grown Topsy-like. Companies have responded instinctively. In the nineteenth century, industries made few donations. Industrialists—millionaires like Andrew Carnegie, John D. Rockefeller and Cecil Rhodes—contributed heavily. Corporations have fallen heir to the functions once performed by these private individuals.

Imperial Oil made its first grant to education in the mid-twenties. Since then, its contributions have multiplied dozens of times over. A prime stimulus was the end of World War II, when funds were once again available for donations. Another factor was a change in the corporation tax structure which made it possible for companies to write off a limited amount of charitable expenditures as allowable deductions from their taxes.

Today Imperial spends hundreds of thousands of dollars a year to help raise education standards in Canada. Most of the money goes for capital grants to universities (last year, the company contributed to 31 institutions of higher education). In addition, the company operates an extensive university scholarship and fellowship program and makes grants-in-aid to Canadian universities

attended by scholarship holders and fellows. Moneys are donated each year to universities for specified research projects. And, while universities absorb the lion's share of its corporate gifts, primary and secondary institutions benefit through Imperial's sponsorship of teachers' exchange bursaries and through donations—\$100,000, to be spread over the five years 1957 to 1961—to the Canadian Education Association.

Why should industry help education? Why not build another factory instead, or raise employees' salaries or use the money to boost dividends? Or does industry believe it has an obligation towards education? To the last question, Imperial responds with a conditional no. The company does not feel it has a responsibility to assist education; at least no more than any other member of the community. A Canadian company's responsibilities are carefully stated by law, and the law makes no mention of donations to schools and universities. It has often been said that a corporation is responsible to four groups—its employees, its shareholders, its customers and the community (which can mean the nation). Sometimes one responsibility can collide with another. Wherever possible a company looks to spend its money in such a way as to benefit all these groups. No expense, be it for education,

an oil refinery or a wage increase, is justified unless it will ultimately profit a company's employees, shareholders, customers and the community it serves.

Assistance to education—assuming it is needed and that it is intelligently given—satisfies all four areas chiefly because free enterprise is more likely to prosper in a well-educated community than in an ignorant one. Industry is at its healthiest in an atmosphere unclouded by misinformed opinion and fuzzy thinking.

In an address to the National Conference of Canadian Universities, Dr. W. M. Compton, president of the American Council for Aid to Education, had this to say: "Education has added just as much to America's capacity to buy and consume as it has to its capacity to produce and sell. Education, like advertising, is a means of making people dissatisfied with what they have. It adds to their incentive as well as to their capacity to make better things . . . If higher education were to wither, production, markets and consumption eventually would wither, too."

Some authorities put it even more strongly. "I believe", says one industrialist, "that education has done more to create and expand markets for business than any other force in America."

But education's contribution to industry goes far beyond the creation of markets. Some industrialists have described their donations as being a "part of the cost of staying in business". Imperial's president J. R. White has expressed the view that freedom of enterprise (which he defines as "the right to do business on economic rather than political lines") owes its existence largely to the reasoned support it has received from the universities. An educated community, says Mr. White, stands as a bulwark against excesses of any kind. The opinions of the educated carry a weight in public opinion which is altogether disproportionate to their numbers. And he poses the question: "What would happen to freedom of enterprise if the universities were opposed to it?"

That freedom of enterprise advances hand-in-hand with freedom of education seems undeniable—but why, aside from reason of gratitude, should industry feel itself impelled to assist education? Why not leave it to government? Assuming that freedom of education is important to industry, what have corporate gifts to do with perpetuating this freedom?

The answer is that the corporate dollar is often able to do a job that a government dollar cannot do. Dollars provided directly by a government are the property of the public and must normally be distributed with this in mind—that is, on a straight basis of nose-counting with little regard for the individual needs of the various institutions. This rather rigid allocation of funds might be sufficient if (a) it could take into account and evaluate individual cases with regard to the worthiness of their needs, (b) conversely, total uniformity were desirable or possible, and (c) if it were felt that higher education should be completely under the thumb of state authorities.

With regard to this last consideration, President H. J. Somers, of St. Francis Xavier University, once said: "In countries where the state has attempted to dictate the teaching in the university, where it has undertaken the direction of higher education, ideas have been stifled and the universities have become mouth-pieces for passing theories, and in many cases their history of hundreds of years has been betrayed. The German universities, instead of leading Germany, put up practically no resistance to Hitler." One might be tempted to add that the Russian student, for all his achievement in technical and other fields, has been permitted to learn nothing that might prompt him to question Communism.

As a non-political entity, industry is better able to regard educational institutions as 'individuals' with widely different needs that cannot be determined by a simple mathematical formula. It is for this reason that Imperial will sometimes donate more to a small university than to a large one, sometimes the reverse. In this way business gifts

can perform tasks that would otherwise go undone; can help a university compensate for higher local education costs; can launch universities on projects which, no matter how worthy, might not be regarded as appropriate for governmental support.

Corporate giving pays less than two percent of Canada's education bill. However, as most industrial donations go toward higher education and higher education absorbs only 10 percent of the educational dollar, industry's contribution to universities must be considered vital—perhaps the difference between a university operating above or below its break-even point.

Mr. White frequently underlines the strategic importance of the industrial dollar to higher education. "The corporation gift", he says, "can be the decisive factor in determining whether a university is to succeed in reaching its own particular goal, is to have that margin which is necessary for it to fulfill the objectives which are in keeping with its own particular character and which help to distinguish it from all other universities in Canada or indeed in the world. To put it another way, corporation giving has so important a role in higher education that it can substantially determine the level of academic freedom which is to be achieved."

Thus we find industry and higher education working in close partnership—each seeking to preserve the other's freedom, each fulfilling its separate obligations to the community.

In his recently published book, *The University Question*, Willson Woodside challenges the equality of the partnership: "Industry and the universities need each other, but industry needs the universities more than the universities need industry." The obvious implication is that while the universities may depend on business firms for a portion of their capital and operating funds, industry could not exist without university-trained personnel. In a sense, Mr. Woodside is probably right: industry couldn't survive without its university-educated engineers

and business experts, while universities probably would be able to get along.

Mr. Woodside's comment—it is somewhat reminiscent of a married couple arguing over who needs whom the most—points up several aspects of the education-industry picture. The first is that industrial aid to education goes a step or two beyond what even its heartiest proponents ever envisaged. In his address to the 1956 National Conference of Canadian Universities, St. Francis Xavier's Monsignor Somers explained, "It is only when individuals and corporations become really interested in our universities that government will do its proper part."

Here then is one of a corporation's most important functions—as a community leader, as an example-setter. Authorities agree that the crisis in Canadian education was not precipitated by any national shortage of money. Canada is a wealthy country and the Canadian economy is more than able to pay the cost of any improvement in education which has been seriously suggested, provided the Canadian people approve greater education expenditures. The average Canadian wage-earner contributes 50 cents a day toward education, considerably less than he spends on liquor and only slightly more than he spends on tobacco.

The primary problem then is one of attitudes—of bringing more people to value education for its own sake, of inducing more people to substitute active interest for passive benevolence toward our schools and universities. For all the millions of dollars industry has invested in education, little will have been achieved if the Canadian public misses the point, if people continue to harbor the traditional North American mistrust of the educated man.

In a way, industry today is acting as a sort of 'advance man' for education. Both out of an enlightened self-interest—which happens to coincide with the self-interest of all Canadians—and because it can command teams of experts in almost any field as well as large sums

of money, Canadian industry has chosen itself to run ahead and spread the word. The hope: that Canadians (and governments) will recognize the importance of vigorously supporting education in all its phases. The fear: that the example of corporate giving will go unheeded, that many Canadians will remain indifferent to the education of their offspring.

Speaking before the Canadian Conference on Education in Ottawa in February, Dr. Claude T. Bissell, now president of the University of Toronto, declared that "the laboratory and the study are in the front line of defense and the survival of our civilization may well depend on the strength of the university. Fifteen years ago the popular idea was that the professor dwelt in a placid backwater, unaware of the facts of economic life, or indifferent to them. Now it is realized that he is in the main stream . . ."

It is undoubtedly true that the successful launching of the first Russian space satellite triggered more hysteria in North American educational and pseudo-educational circles than any other event in this continent's history. If this leads to a review, a general overhauling, of our education system, then it was a good thing. If, however, it results only in increased support for one branch of education, then the cure could be the cause of another sickness.

Over-emphasis of any one segment of education in response to a temporary shortage can lead to over-production in much the same way industry might tend to over-produce a certain product if that product were in short supply. Excesses anywhere are dangerous. A shortage in any one professional group will usually be cured by the laws of supply and demand.

Industry cannot reasonably hope for more than one thing from universities—that they produce technical people who are educated and not merely trained. In earlier times, specialists were permitted to remain specialists. Today they tend to move out of their back offices and into the world of business where a

The big problem facing universities today is that of finance. Tuition fees pay for only one-third of the cost of a university education. In Britain, 70 percent of the university students receive financial assistance, while in Canada, only 15 percent receive any financial support.

full intellectual capacity—and not just a slide-rule—is needed to make decisions.

In a recent address at the University of Western Ontario, Mr. White said, "We do not want people—from any level of education—who are mere extensions of the machines or plants they operate. We want people who can think, people who understand the philosophy as well as the mechanics of their particular occupation." Dr. Sidney Smith, former president of the University of Toronto and now External Affairs minister, describes this viewpoint as a reaction against "the uncouth expert, the crude practitioner and the barbarous engineer!"

The problems of running a large company are far more complex today than ever before. Automation de-emphasizes muscles and puts heavy stress on brains. For every man taken off the end of a shovel by automation, two more are needed in the office. Despite the furor and panic caused by the launching of the Russian Sputnik—and the consequent concern in the western world over technical progress—good arts graduates are as badly needed as good engineering graduates.

Industry has come to some remarkable new conclusions about the arts graduate and his capacity to learn. In a recent test, a large United States company hired 20 engineering graduates and 20 arts graduates. The engineers took the standard plant training course while the arts men took a special intensive six-month course. Both were assigned to the same type of technical job. In three years, according to the survey, it was im-

possible to distinguish the arts men from the engineering graduates insofar as their job efficiency was concerned.

Out of recognition of the importance of research in the fields of liberal arts and the humanities, Imperial tries to maintain a correct balance in awarding its graduate fellowships. At present, fellowship holders are studying such subjects as rational psychology, the history of Canadian banking, and the social history of eighteenth century England as well as a broad range of subjects in the scientific fields. (A fellow receives \$1,250 a year for three years and an additional \$750 per summer if he studies in the summer months. Though he can study at any recognized university in the world, most have chosen to attend British institutions. Since 1946 the company has spent more than \$157,000 on this fellowship program. Undergraduate scholarships, open only to the children and wards of employees, have cost \$316,000 since they were initiated 12 years ago.)

Such industrial fellowships and scholarships have played a part in bringing industrialists and educators closer together. Not so very long ago, most industrialists tended to view university people as impractical, unrealistic ivory tower dwellers. The educationists, for their part, often regarded businessmen as capable of only a narrow, materialistic approach cold-bloodedly predicated on the personnel needs of their own businesses.

Educationists, quite understandably, often disagree with industrialists on the proper way to donate money to education. Some hold that donations should be completely unrestricted as to use, that the university administrators are men with direct experience in the field of education and should be free to spend the money where they feel it will be most useful. Some have suggested that all corporate donations be pooled and apportioned to individual institutions as non-industrial authorities see fit. At the Canadian Conference on Education, one speaker urged that industries be forced,

on pain of penalty, to turn over a certain proportion of their profits to an interprovincial education agency.

But these arguments overlook certain salient facts behind the theory of corporate gifts. Industry, as has already been said, has no special obligation to education. If industry, which prides itself on having men of good sense at top levels, were to donate blindly, without evaluating the worth of a specific project, then it would be abdicating its responsibilities to its shareholders. Some degree of control should properly be exercised by the donor.

On the second point—that donations be made compulsory—surely this would detract from the pleasant relationship between industry and education. Educationists would come to feel that the corporate gift was their right and proper due. Industrialists would come to regard the educational donation as just another tax imposition. The spirit would be gone—and so would industry's interest.

No company should be expected to give a stated percentage of its profits to education year after year. The amount should be kept flexible and should be adjusted to meet changing needs. If there are any rules of thumb to be applied to corporate giving, they are these: industry should confine itself to financing relatively short-term projects rather than commit itself to long-term undertakings; wherever possible, industrial spending should complement government spending, not replace it; educational institutions should be discouraged from relying on corporate gifts—business circumstances can bring sharp curtailments and an institution that has come to count on regular contributions from industry could find itself left high and dry.

There is ample evidence today that industry and education are learning to trust each other, that both are prepared to forget longstanding grievances in favor of rescuing education from its present plight. As Mr. White remarked recently, "One of the most reassuring sights in a somewhat unsettled world is

that of businessmen gathering together in the halls of learning or of learned men gathering in the marts of trade. These things are reassuring because they are signs of an integrated society, a world in which the specialized branches of the community know and respect each other's position and worth."

Testifying to this new spirit of mutual understanding was the success of the first Canadian Conference on Education held in Ottawa in February of this year. Financed principally by industry and commerce, the conference brought together a highly representative cross-section of Canadian citizens — 850 in all — all deeply interested in education. Industrial representatives remained in the background, drawing from the *Montreal Star* the comment that "Canadian business and industry are sensibly understanding their responsibility in this field."

While it is too early to gauge the results of the conference—and, in fact, its true value may never be accurately realized—it is clear that it succeeded in bringing before the public the problems faced by education authorities in Canada today.

Just what are these problems and how serious are they? Certainly the cost of education is going up. Last year Canadians paid \$988 million to educate their young—about 3.2 percent of the gross national product. By 1960, it is estimated, the nation's education bill will exceed \$1,342 million, or 3.5 percent of the gross national product; by 1965, education costs will total a staggering \$2,290 million, a full four percent of the GNP.

It is our universities that are feeling the economic pinch the most. Tuition fees today pay for only about a third the cost of a university education. Professors' salaries are lagging far behind the rise in the earning capacities of most other Canadians. Our undergraduate scholarship system remains woefully inadequate. Cyril James, president of McGill University, was recently quoted as saying, "A young Canadian from a family of modest circumstances has less chance of getting a university education

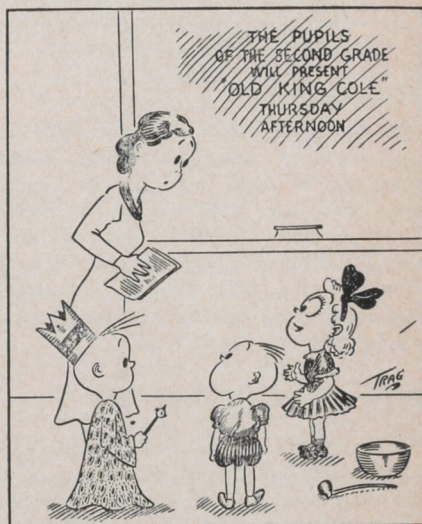
in Canada today than in any other country with which I am familiar." It has been pointed out that in Britain 70 percent of the university students receive financial assistance—and, in Canada, 15 percent.

Author H. G. Wells once wrote: "Human history becomes more and more a race between education and catastrophe." If catastrophe is to be prevented from winning that race, then industry obviously must miss no opportunity to convince Canadians of the value of education and the necessity of supporting it with every dollar available.

Reprinted from *Imperial Oil Review*, August, 1958.

Through their Junior Red Cross Canadian children are bringing much cheer and happiness to shut-ins and others less fortunate than themselves in their own communities.

There are 1,274,322 children enrolled in the Canadian Junior Red Cross in 39,490 classroom branches from British Columbia to Newfoundland. The Junior Red Cross is an officially-approved in-school activity.



"Are real people coming, or just Mothers and Fathers?"

Electoral Ballots, 1958

The Executive Council of The Alberta Teachers' Association requests that, in accordance with By-laws 69, 70 (as amended in 1958), 71, 72, 73, 74, 75, and 76 the following proposed amendments to and deletions of the General By-laws of The Alberta Teachers' Association be submitted to the members of the local associations in general meeting. Secretaries of local associations will receive electoral ballot forms, which must be signed by the president and secretary, and must be received by head office not later than December 1, 1958.

Electoral Vote No. 1 of 1958

Present by-law

5. (4) From the amount paid, the general secretary-treasurer shall remit to each local the sum of sixty (60) cents per calendar month for each member of such local and remittances shall be made as determined by the Annual General Meeting.

Proposed amendment

5. (4) From the amount paid, the general secretary-treasurer shall remit to each local the sum of seventy-five (75) cents per calendar month for each member of such local and remittances shall be made as determined by the Annual General Meeting.

Explanatory Note

Since it is anticipated that there will be an increase in Association fees, more money can be made available to locals. Some locals find difficulty in financing on the present allotment and, as local activities continue to expand, more money will be needed. The Executive Council recommends that this by-law amendment be approved.

Electoral Vote No. 2 of 1958

Present by-law

16. The majority vote of a regularly called meeting of a local shall control the electoral vote of the local, and the secretary shall promptly notify the general secretary-treasur-

er of the result. The local shall be entitled to as many electoral votes as there are councillors who represent it.

Proposed amendment

16. The majority vote of a regularly called meeting of a local shall control the electoral vote of the local, and the secretary shall promptly notify the general secretary-treasurer of the result. The local shall be entitled to one electoral vote for each fifty (50) members or major fraction thereof, provided that a local with fewer than twenty-six (26) members shall be entitled to one electoral vote.

Explanatory Note

The effect of this proposed amendment will be to establish a procedure for determining electoral votes without such being connected with the method of determining the number of councillors. Under this amendment the electoral votes are more nearly on a basis of proportional representation.

Electoral Vote No. 3 of 1958

Present by-law

20. The Annual General Meeting shall be composed of the Executive Council and duly accredited councillors of locals. Councillors to the meeting shall be members of locals and the number representing a local shall be on the basis of one councillor for every fifty (50) members or fraction thereof, provided that every

local shall be represented by at least two (2) councillors.

Proposed amendment

20. (1) The Annual General Meeting shall be composed of the Executive Council and duly accredited councillors of local associations.
- (2) Councillors to the meeting shall be members of the locals they represent.
- (3) The Executive Council shall, prior to September 1 in each year, fix the ratio of councillors to total membership per local provided that:
- (a) each local shall have no fewer than two councillors, and
 - (b) the number of councillors attending the Annual General Meeting shall be not less than 150 nor more than 200.
- (4) The said ratio shall be published annually in the September issue of *The ATA Magazine*.

Electoral Vote No. 4 of 1958

Present by-law

66. The Executive Council shall be charged with the administration of the said trust funds and subject to the other provisions of this By-law and such regulations as it may make from time to time shall appropriate, invest, disburse, maintain, and manage the same in its sole and uncontrolled discretion.

Proposed amendment

66. The Executive Council shall be charged with the administration of the said trust funds and subject to the other provisions of these By-laws and such regulations as it may make from time to time shall appropriate, invest, disburse, maintain, and manage the same in its sole and uncontrolled discretion.

Explanatory note

This amendment is being suggested in order to allow the proper application

of existing by-laws respecting investment of Association funds.

Electoral Vote No. 5 of 1958

Present by-law

68. The Executive Council shall as soon as reasonably convenient after appropriation invest the same as follows:
- (a) not less than 30% nor more than 50% in Dominion of Canada bonds,
 - (b) not more than 30% in provincial bonds,
 - (c) not more than 30% in municipal bonds of municipalities having a population exceeding 7,500,
 - (d) not more than 15% in such other investments as the Executive Council may in its sole and uncontrolled discretion determine.

Proposed amendment

It is proposed to insert immediately after By-law 67 the following new sub-heading and by-law.

Investments

68. The Executive Council shall invest the Association's general funds not required for current operations and its trust funds in securities of a kind and in the proportion allowed under the *Canadian and British Insurance Companies Act*.

Explanatory note

The Executive Council recommends approval of the amendment to By-law 68 because:

- (1) investment policies have changed since the present by-law was adopted,
- (2) the *Canadian and British Insurance Companies Act* provides greater diversification with adequate checks,
- (3) this is the method of investment used by the Board of Administrators, Teachers' Retirement Fund, and
- (4) this amendment sets out regulations under which Association moneys are to be invested.

ATA Education Scholarships

Eight teachers and education students have been awarded \$500 scholarships under The Alberta Teachers' Association scholarship program. They are Bette G. Bothwell, Rachel M. Brochu, Catherine A. Brown, Donald G. Fowler, Denise S. Helgason, William D. Knill, Michael E. J. Orme, and Ross E. Traub.

The graduate scholarships were awarded to Miss Brochu, Mr. Fowler, and Mr. Knill. The other five award winners are entering the final year of the bachelor of education program.

The Clarence Sansom Memorial Gold Medal and the Clarence Sansom Scholarship in Education, which is offered annually to the student who has shown the highest general proficiency in the final year of the B.Ed. program, was awarded to **Rachel Madeleine Brochu**. Miss Brochu was awarded the William Aberhart Scholarship in Education in 1957 which she used to complete her final year of the bachelor of education program. She took the first two years of her degree work after graduating from Thibault High School in Morinville in 1953. She then taught in the Edmonton Separate School system for two years during which time she finished her third year by evening and summer sessions. Miss Brochu majored in mathematics and science in her undergraduate program and plans to enter the Faculty of Graduate Studies within the next two years to work towards a M.Ed. degree. In addition to her interest in mathematics, Miss Brochu has been active in the organization of track and field events. She also holds a junior certificate in music.

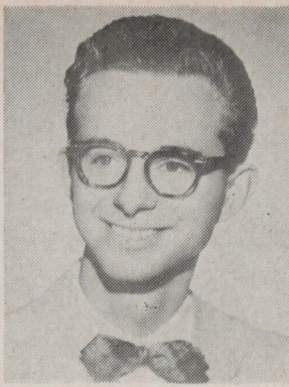
The John Walker Barnett Scholarship in Education has been awarded to **Donald Gary Fowler**. A native of Edmonton, Mr. Fowler studied at Oliver Junior High, Victoria Composite, and University

High Schools. In previous years, he has received an Alberta Hotel Association Scholarship, a University of Alberta Honour Prize, the John Henry Stanley Memorial Prize in History, and the Hubert Charles Newland Scholarship in Education. A former editor of the campus newspaper *The Gateway*, Mr. Fowler has been a staff writer for *The Edmonton Journal* for the past four years and young people's editor since 1956. He received his B.Ed. degree from the University of Alberta in 1957 and begins studies this autumn towards an M.Ed. degree in Detroit, Michigan. He has been active in Studio Theatre on the Edmonton campus. The John Walker Barnett Scholarship is offered annually to a graduate student who gives evidence of superior academic and professional promise and capacity for leadership, and who intends to follow teaching as a career.

The Milton Ezra LaZerte Scholarship in Education has been awarded to **William D. Knill**. Mr. Knill is presently enrolled in a doctoral program at the University of Oregon and is also engaged by the university as a research associate on the Oregon Community Project. Mr. Knill was born in Killam where he received most of his elementary and high school education. He completed his high school program at Lacombe and then attended normal school. Mr. Knill graduated from the University of Alberta with his B.Ed. degree in 1951. In 1958, he received his M.Ed. degree from Montana State University with an extremely high academic standing. The University of Oregon has given Mr. Knill a graduate award to aid him in his doctoral program. Mr. Knill majored in psychology in his master's program and intends to continue in this field of study. He taught for ten years at Bow Island and five



RACHEL M. BROCHU



DONALD G. FOWLER



WILLIAM D. KNILL



BETTE G. BOTHWELL



CATHERINE A. BROWN



DENISE S. HELGASON



MICHAEL E. J. ORME



ROSS E. TRAUB

years in Lethbridge. Last year, he taught in a Hutterite School in Warner County. In addition to his academic work, Mr. Knill is extremely interested in arts, crafts, and ceramics.

The winner of the William Aberhart Scholarship in Education, **Bette G. Bothwell**, was born in Regina, Saskatchewan. She came to Edmonton during her pre-school years and received her elementary and high school education here. After graduating from Strathcona Composite High School, she entered business college and worked as a secretary for a short time, before enrolling in the elementary program in the Faculty of Education. While attending university, she was active in the drama society, worked on the yearbook, and was president of the radio society. Miss Bothwell was awarded the Scholarship of the Board of Governors in Elementary Education and received a Literary A Award. Miss Bothwell taught in Edmonton Public Schools from 1952 to 1958 and is now teaching in the Lethbridge School Division. She intends to complete her bachelor of education degree program during the 1959-60 session. Miss Bothwell is interested in international affairs, poetry, music, writing, and drama.

The winner of the Samuel Henry Crowther Scholarship in Education, **Catherine Annette Brown**, is majoring in primary education. Miss Brown was born in Vermilion, but received most of her education in Edmonton where she has lived for the past twelve years. Upon graduation from Strathcona High School in 1955, Miss Brown enrolled in the Faculty of Education. She has now completed three years of the four-year B.Ed. program. The IODE Duke of Edinburgh Chapter Bursary was awarded to Miss Brown on the commencement of her first year of university study. Miss Brown has always been interested in fine arts and handwork and intends to make ample use of these in her class work.

Denise Sigrid Helgason has been awarded the Harry Dean Ainlay Scholarship in Education. Miss Helgason graduated from University High School in

Edmonton in 1955 with first class standing and was awarded the Rosborough Memorial Trophy as the most outstanding all-round Grade XII graduate. She enrolled in the secondary route of the B.Ed. program and is presently entering her final year. During her first three years at university, Miss Helgason received many awards and scholarships including The National Office Management Association Scholarship, the Scholarship of the Board of Governors in First Year Education, and University of Alberta Honours and First Class Standing Prizes. Besides her academic work in English, history, and French, Miss Helgason is interested in music and plays in the University Symphony Orchestra. A portion of her poetical narrative, entitled "The Music Festival", was published in the *Alberta Golden Jubilee Anthology*.

The winner of the Mary Roberta Crawford Scholarship in Education, **Michael Edward James Orme**, received his early education in Saskatchewan. He also attended school in Stettler, Tofield, Jasper, and Calgary. Mr. Orme graduated from high school in 1954 short of his senior matriculation. He completed the university entrance requirements at night school and then enrolled in the Calgary Branch of the University of Alberta in 1955. During his first three years in the Faculty of Education, Mr. Orme received several awards and scholarships including the Leonard Foundation Scholarship, the Viscount Bennett Scholarship, and University of Alberta First Class Standing Prize. Mr. Orme is majoring in English during his undergraduate year, and plans to study psychology at the graduate level. In addition to his academic work, Mr. Orme is active in several sports and takes a keen interest in his record collection of opera, symphony, and ballet music.

Ross Eugene Traub has been awarded the William Edward Frame Scholarship in Education. Mr. Traub was born in Didsbury and received his elementary and high school education in Trochu. He received an Alberta Hotel Association

Scholarship and enrolled in the Faculty of Education in 1955. In his first year he received a University of Alberta Honour Prize, and in 1958, a First Class Standing

Prize. Mr. Traub is active in baseball, golf, and curling. He also has considerable training in music and taught piano during his high school years.

Executive Council By-Election, 1958

A by-election will be held during November, 1958 to fill the unexpired term on the Executive Council of The Alberta Teachers' Association of the district representative for Northwestern Alberta constituency.

A candidate for the office of district representative for Northwestern Alberta constituency for the balance of the term expiring at Easter, 1960 may be nominated by the following local associations:

Fairview, Grande Prairie, High Prairie, Peace River, and Spirit River.

Nominations and acceptance forms will be sent to the secretaries of the local associations concerned. Where changes have been made in local secretaries, head office should be notified immediately. **The closing date for receipt of nominations will be 12 o'clock noon, Saturday, October 18, 1958.**

CBC School for Parents—1958

For his sixteenth annual CBC School for Parents, Dr. S. R. Laycock has chosen the theme, "Skills for Living". What are the main skills of living and how do children learn them?

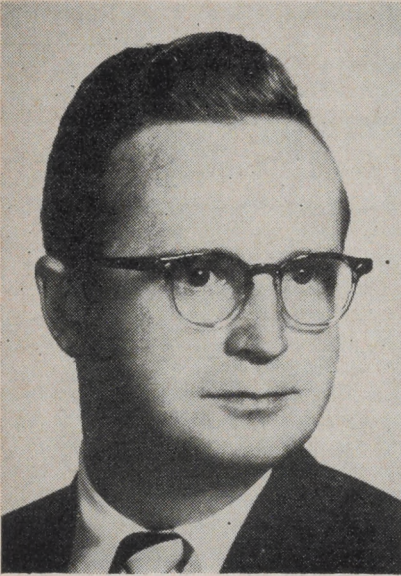
Dr. Laycock is former dean of education at the University of Saskatchewan and has been speaker in this series since the first was broadcast in 1942. He is a recognized authority on child psychology and parent education. For many years Dr. Laycock has worked closely with the Home and School and Parent-Teacher Federation, serving for a time as its national president. He estimates that he has spoken to more than a thousand home and school and parent-teacher associations from the Maritimes to the Yukon.

CBC School for Parents will be heard weekly on Trans-Canada Matinee, 3:30 p.m. MST, beginning Thursday, October 16. Titles of the ten talks in this year's series will be—

- | | | |
|-------------|---|----------------------------|
| October 16 | — | Emotional Sturdiness |
| October 23 | — | Clear Thinking |
| October 30 | — | Working Effectively |
| November 6 | — | Getting Along with People |
| November 13 | — | Growing Through Play |
| November 20 | — | Being Themselves |
| November 27 | — | Making Their Own Decisions |
| December 4 | — | Wholesome Sex Attitudes |
| December 11 | — | A Philosophy of Life |
| December 18 | — | Balancing Their Lives |

Dr. Laycock will also be heard in three talks concerning gifted children on Post-News Talks at 7:20 p.m., MST, October 7, 9 and 10.

Guest Speakers



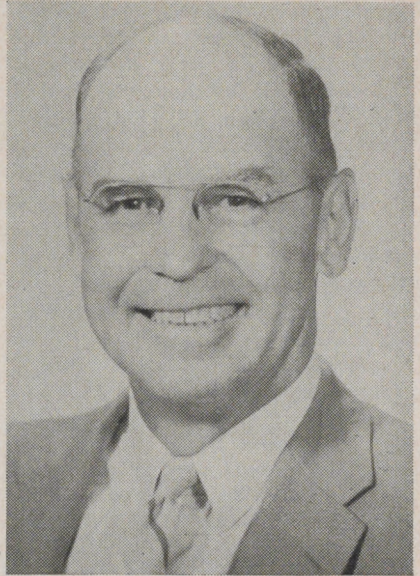
LESTER B. BALL

Dr. Ball, who will be guest speaker at the three Edmonton District Conventions, is superintendent of Millburn Township Public Schools in Millburn, New Jersey and a staff member of the School of Education, Rutgers University, New Brunswick, New Jersey.

Dr. Ball graduated in 1934 with the B.Ed. degree from Northern Illinois State Teachers' College. He received his M.A. degree in 1938 and the Ed.D. degree in 1949 from Northwestern University.

His teaching career began in 1934 in Evanston, Illinois. In 1938, he became a superintendent of schools, and was appointed to his present superintendency in 1950. During the summer sessions from 1939 to 1943 he was professor of education at Drake University, and from 1944 to 1949 on the summer school faculty of Northwestern University.

Dr. Ball was Alberta Teachers' Association guest speaker at the Red Deer and Camrose Conventions last year.



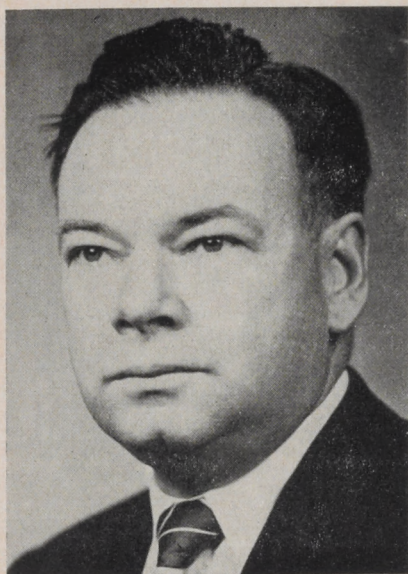
E. W. BUXTON

Dr. Buxton graduated from Camrose Normal School in 1929. He received his B.A. degree in 1941 and his B.Ed. in 1948 from the University of Alberta, his M.A. from the University of Washington in 1954, and his Ph.D. degree from Stanford University in 1958.

He taught in a number of rural and town schools in Alberta, then on the Edmonton Public school staff and was appointed to the Faculty of Education at Calgary in 1948. On his return in 1956 from a year at Stanford University, he was appointed as associate professor at Edmonton. Dr. Buxton is editor of *Creative Living*, Book 5, and *The Teachers' Guide to Grade XI Literature*, and is also chairman of the departmental sub-committee on high school English. An active member of the Association during his teaching career, Dr. Buxton served as cartoonist for *The ATA Magazine* from 1946 to 1948.

He will be guest speaker at the North Peace and Grande Prairie-Spirit River Conventions.

ATA Fall Conventions, 1958



H. T. COUTTS

Dean of the Faculty of Education of the University of Alberta, Dr. Coutts will be guest speaker at the Vermilion and Calgary District Conventions.

Dr. Coutts received his elementary and secondary education in Ontario and Alberta, and graduated from Calgary Normal School. In 1935, he received the B.A. degree from the University of Toronto with first class honours standing. Work for his M.A. degree was completed at the University of Alberta in 1940, and in 1950 he was granted the Ph.D. degree from the University of Minnesota.

Following several years' teaching in Alberta and three years as superintendent at Wainwright, Dr. Coutts was appointed to the Faculty of Education in 1946, became chairman of the division of secondary education in 1950, was promoted as professor in 1951, and appointed as dean in 1955.

Dr. Coutts was guest speaker at the St. Paul-Bonnyville Convention in 1957.

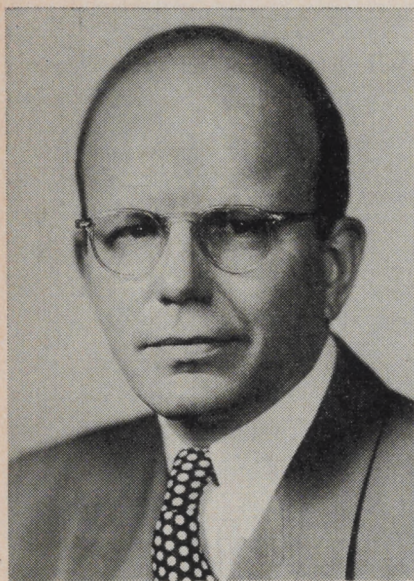


HOLLIS A. MOORE

Guest speaker at the Bonnyville-St. Paul and Lethbridge Conventions will be Dr. Hollis A. Moore, Jr., executive secretary, Committee for the Advancement of School Administration, American Association of School Administrators, Washington, D.C.

Dr. Moore received his elementary and secondary education in Texas. He attended Baylor University, Brown University, and the University of Texas, and received his doctoral degree in 1953. He has taught social studies in both junior and senior high schools and has lectured on school administration at summer sessions at Northwestern University, the University of Virginia, Arizona State College, the University of Denver, and Stanford University.

Dr. Moore is the author of *Studies in School Administration* and is presently chairman of the 1960 AASA yearbook. He has also served as associate editor of *The Nation's Schools*.



RALPH W. TYLER

Dr. Tyler, guest speaker at the Camrose and Red Deer Conventions, graduated from Doane College in 1921 with the degree of A.B. He received his master's degree from the University of Nebraska in 1923 and the doctor's degree from The University of Chicago in 1927.

He taught in high schools in South Dakota and Nebraska and has been on the faculty of the University of Nebraska, the University of North Carolina, Ohio State University, and The University of Chicago.

From 1938 until 1948 he was chairman of the department of education at The University of Chicago and from 1948 until 1953 dean of the division of the social sciences. He was also university examiner for six years, and from 1943 until 1954 director of examinations staff, United States Armed Forces Institute. Since 1953 he has been director of the Centre for Advanced Study in the Behavioral Sciences.



L. E. VREDEVOE

Guest speaker at the Coronation, Hanna, and Southeastern Alberta Conventions will be Dr. L. E. Vredevoe, professor of education, University of California, Los Angeles.

Dr. Vredevoe received his A.B. from Hope College, Holland, Michigan and his A.M. and Ph.D. degrees from the University of Michigan. From 1948 to 1953, Dr. Vredevoe was associate professor of education at the University of Michigan. Prior to this, he had twenty years of teaching and administrative experience in secondary schools of Michigan and Ohio.

Dr. Vredevoe has written several articles for educational magazines and is author of two books, *A Brief Outline of Secondary Education*, published in 1955, and *An Introduction and Outline of Secondary Education*, published in 1957.

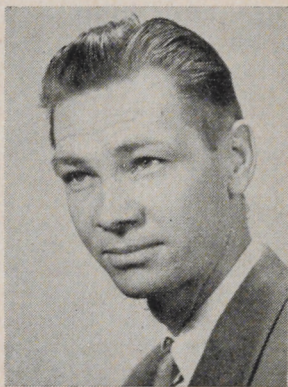
An outstanding educator, Dr. Vredevoe is listed in *Who's Who in Education and Leaders in Education*.

ATA Fall Conventions, 1958

Bonnyville - St. Paul—October 6 and 7 at Bonnyville



J. W. CHALMERS



C. HAMPSON

Locals—Bonnyville and St. Paul.

Convention officers—Fabian Milaney, Cold Lake, president; J. A. N. Marcotte, Bonnyville, secretary.

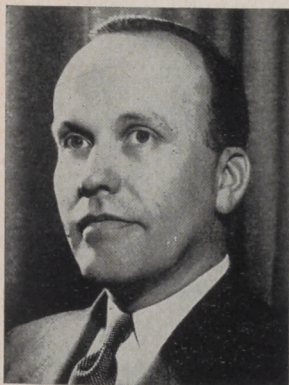
Visiting speakers—Dr. Hollis A. Moore, Alberta Teachers' Association guest speaker; Dr. J. W. Chalmers, Department

of Education; C. Hampson, Faculty of Education; F. J. C. Seymour, Alberta Teachers' Association.

Superintendents—H. A. MacNeil and R. Racette.

High School Inspector—G. L. Berry.

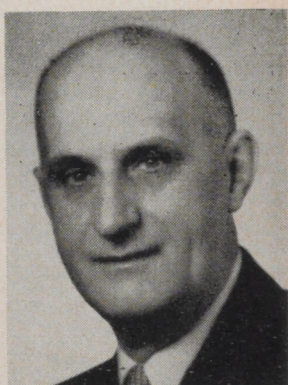
Lethbridge—October 9 and 10 at Lethbridge Collegiate Institute



A. O. AALBORG



HORACE ALLEN



GEORGE WATSON

Locals—Crowsnest Pass, Lethbridge City, Lethbridge District, Pincher Creek, St. Mary's River, Taber, and Warner.

Convention officers—Horace Allen, Coleman, president; George Watson, Lethbridge, secretary.

Visiting speakers—Dr. Hollis A. Moore, Alberta Teachers' Association guest speaker; Hon. A. O. Aalborg, Department of Education; H. C. Melsness, Faculty of Education; Eric C. Ansley, Alberta Teachers' Association.

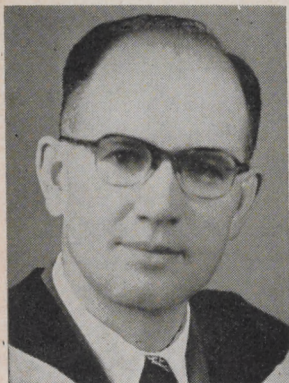
Superintendents—J. B. Bell, L. H. Busard, R. A. Kimmitt, C. G. Merkley, E. C. Miller, N. M. Purvis, and K. H. Thomson.

High school inspector—C. B. Johnson.

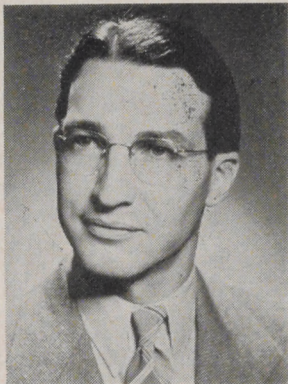


H. C. MELSNESS

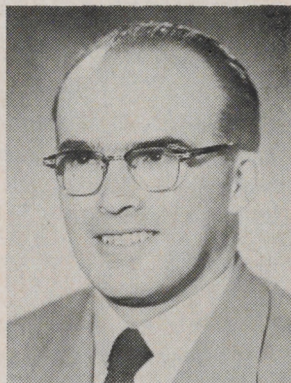
First Edmonton District—October 9 and 10 at The Macdonald



N. A. MELNYK



H. S. BAKER



R. A. MORTON

Locals—Athabasca, Barrhead, Edmonton Suburban, Lamont, Sturgeon, and Thorhild.

Convention officers—C. Tymchuk, Athabasca, president; N. A. Melnyk, Andrew, secretary.

Visiting speakers—Dr. Lester B. Ball, Alberta Teachers' Association guest speaker; R. A. Morton, Department of Education; Dr. H. S. Baker, Faculty of Education; F. J. C. Seymour, Alberta Teachers' Association.

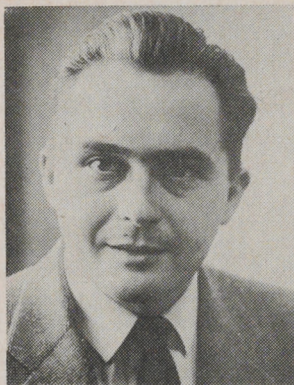
Superintendents—J. H. Blocksidge, M. G. Gault, I. Goresky, M. MacLeod, R. C. Ohlsen, and J. F. Swan.

High school inspector—J. C. Jonason.



C. TYMCHUK

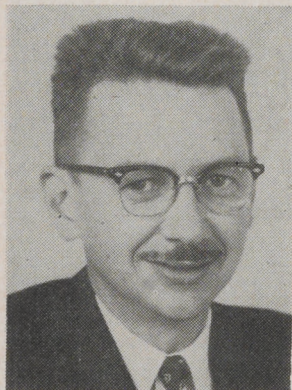
Second Edmonton District—October 14 and 15 at The Macdonald



J. H. M. ANDREWS



M. L. WATTS



H. ROSS



M. UKRAINETZ

Locals—Lac la Biche, Lac Ste. Anne, Smoky Lake, Stony Plain, Westlock, and Wetaskiwin.

Convention officers—H. Ross, Fawcett, president; M. Ukrainetz, Westlock, secretary.

Visiting speakers—Dr. Lester B. Ball, Alberta Teachers' Association guest speaker; M. L. Watts, Department of Education; Dr. J. H. M. Andrews, Faculty

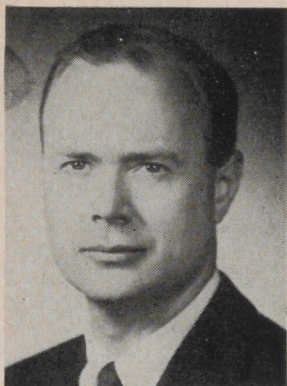
of Education; Eric C. Ansley, Alberta Teachers' Association.

Superintendents—E. M. Erickson, G. Filipchuk, F. Hannochko, H. A. Kotash, E. G. McDonald, and J. I. Sheppy.

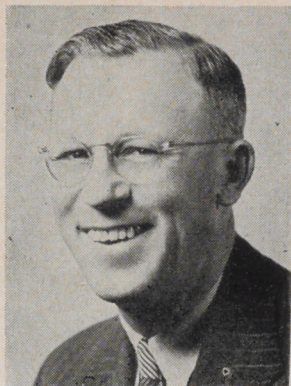
High school inspectors—J. C. Jonason and O. Massing.

Form of convention—General and group sessions.

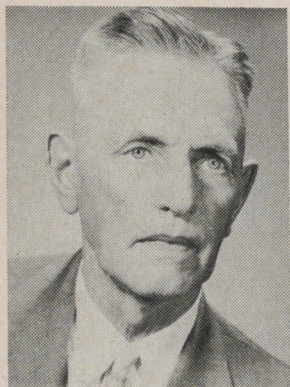
Entertainment—Banquet.



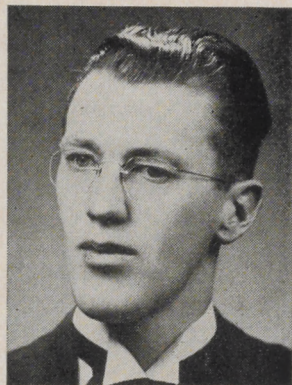
J. A. FORBES



A. A. ALDRIDGE



R. ZUAR



J. R. WRIGHT

Locals—Clover Bar, Coal Branch, Edson, Holden, Leduc, and Two Hills.

Convention officers—Ralph Zuar, Evansburg, president; John R. Wright, Edmonton, secretary.

Visiting speakers—Dr. Lester B. Ball, Alberta Teachers' Association guest speaker; A. A. Aldridge, Department of

Education; J. A. Forbes, Faculty of Education; Eric C. Ansley, Alberta Teachers' Association.

Superintendents—J. H. Finlay, N. Myskiw, H. A. Pike, C. Pyrch, and L. A. Walker.

High school inspectors—J. C. Jonason and O. Massing.

North Peace—October 20 and 21 at Peace River

Locals—Fairview, High Prairie, and Peace River.

Convention officers—Norman Blaskovits,

Fairview, president; Earle J. Guertin, Fairview, secretary.

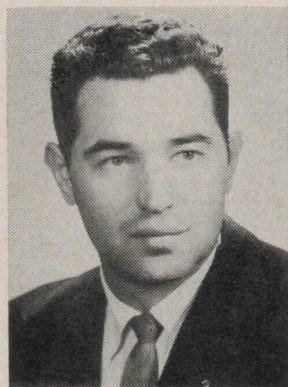
Visiting speaker—Dr. E. W. Buxton,



S. C. T. CLARKE



S. A. EARL



N. BLASKOVITS



E. J. GUERTIN

Alberta Teachers' Association guest speaker; S. A. Earl, Department of Education; Dr. S. C. T. Clarke, Faculty of Education; E. J. Ingram, Alberta Teachers' Association.

Superintendents—O. Fadum, A. D. Jardine, W. D. McGrath, and R. M. Ward.

High school inspector—G. L. Berry.

Form of convention—General and workshop sessions.

Vermilion—October 20 and 21 at Vermilion School of Agriculture

Locals—Vegreville, Vermilion, and Wainwright.

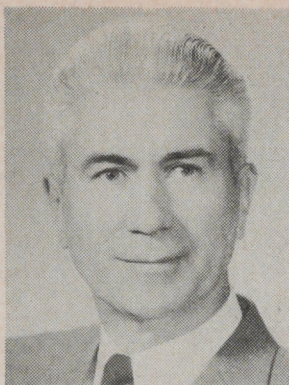
Convention officers—C. Gordon Strong, Vegreville, president; Frank J. Welsh, Vermilion, secretary.

Visiting speakers—Dr. H. T. Coutts, Alberta Teachers' Association guest

speaker; Hon. A. O. Aalborg, Department of Education; Dr. H. T. Sparby, Faculty of Education; Eric C. Ansley, Alberta Teachers' Association.

Superintendents—F. B. Facey, L. G. Hall, and S. D. Simonson.

High school inspector—O. Massing.



H. T. SPARBY

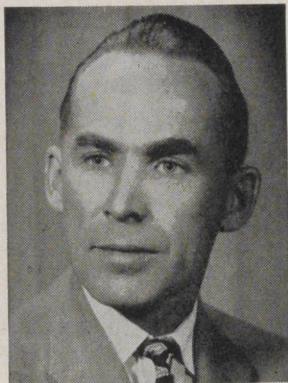


F. J. WELSH

Grande Prairie - Spirit River—October 23 and 24 at Grande Prairie



W. PILKINGTON



M. O. EDWARDH

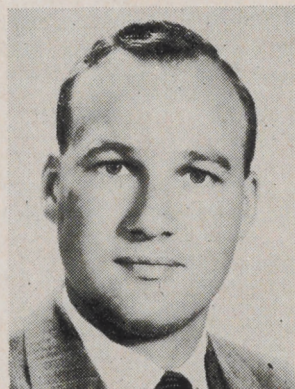
Locals—Grande Prairie and Spirit River.
Convention officers — Roy Gouchey, Beaverlodge, president; W. S. Warren, Grande Prairie, secretary.

Visiting speakers—Dr. E. W. Buxton, Alberta Teachers' Association guest speaker; M. O. Edwardh, Department of Education; W. Pilkington, Faculty of Education; E. J. Ingram, Alberta Teachers' Association.

Superintendents—N. J. Andruski, O. L. Matson, and F. M. Riddle.

High school inspector—G. L. Berry.

Convention theme—English-Social Studies.

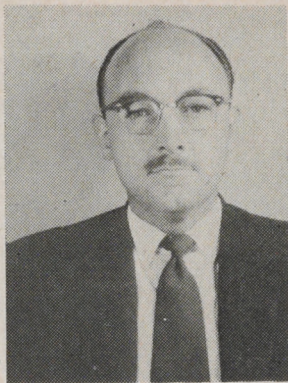


R. GOUCHEY

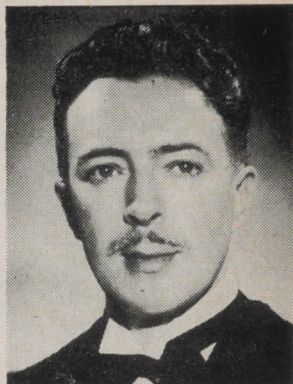
Calgary District—October 23 and 24 at The Palliser



W. H. SWIFT



A. A. SMITH



H. GRAY

Locals—Calgary Rural, Calgary Suburban, Drumheller, Foothills, Macleod, Mount Rundle, Olds, Three Hills, Turner Valley, Vulcan, and Wheatland.

Convention officers—Marshall Bye, Standard, president; H. Gray, Claresholm, secretary.

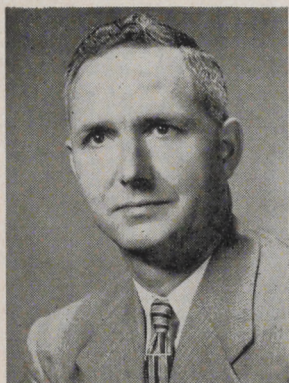
Visiting speakers—Dr. H. T. Coutts, Alberta Teachers' Association guest speaker; Dr. W. H. Swift, Department of

Education; A. A. Smith, Faculty of Education; Eric C. Ansley, Alberta Teachers' Association.

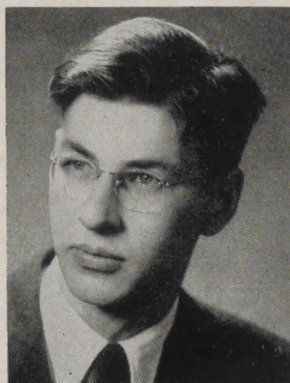
Superintendents—E. H. Bliss, W. R. Dean, G. F. Hollinshead, M. Holman, S. W. Hooper, J. C. Jensen, W. S. Korek, C. M. Lavery, A. L. Schrag, and G. L. Wilson.

High school inspectors—C. B. Johnson and L. W. Kunelius.

Camrose—October 27 and 28 at Camrose High School



J. W. GILLES



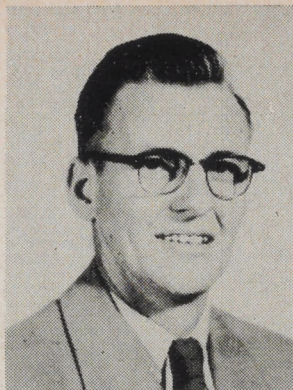
V. R. NYBERG

Locals—Camrose, Hardisty-Provost, and Killam.

Convention officers—F. Paegge, Provost, president; G. A. Dennis, Camrose, secretary.

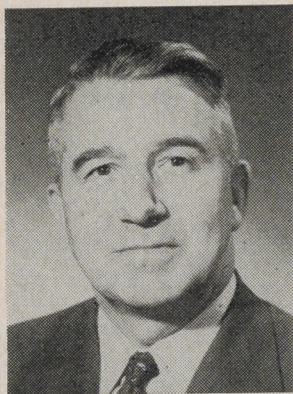
Visiting speakers—Dr. Ralph W. Tyler, Alberta Teachers' Association guest speaker; V. R. Nyberg, Department of Education; Dr. J. W. Gilles, Faculty of Education; Eric C. Ansley, Alberta Teachers' Association.

Superintendents—J. R. S. Hambly, R. Leskiw, and R. F. McCormick.

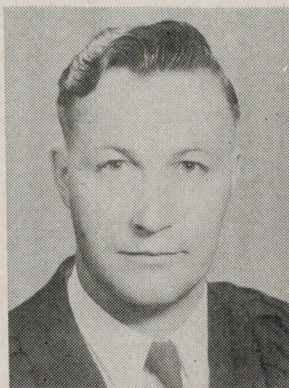


G. A. DENNIS

Red Deer Area—October 30 and 31 at Lindsay Thurber Composite High School



H. B. ROGERS



R. PETTERSEN

Locals—Lacombe, Ponoka, Red Deer, Rocky Mountain House, and Stettler.

Convention officers—R. Pettersen, Ponoka, president; H. B. Rogers, Red Deer, secretary.

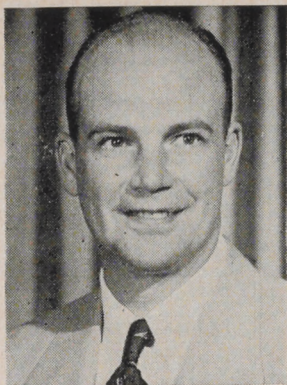
Visiting speakers—Dr. Ralph W. Tyler, Alberta Teachers' Association guest speaker; Dr. T. C. Byrne, Department of

Education; A. G. Storey, Faculty of Education; W. Roy Eyres, Alberta Teachers' Association.

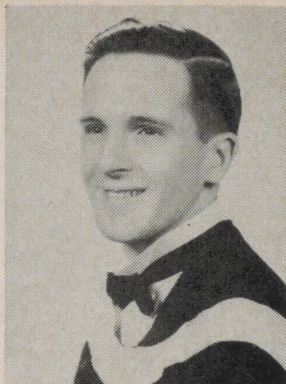
Superintendents—T. K. Creighton, G. H. Dawe, H. J. Hall, R. V. McCullough, H. R. Ross, and E. W. White.

Convention theme—Mathematics and Science.

Castor - Neutral Hills—November 3 and 4 at Coronation



D. R. CAMERON



S. J. NORRIS



H. L. BAKER



W. NORTON

Locals—Castor and Neutral Hills.

Convention officers—William Norton, Coronation, president; Howard L. Baker, Coronation, secretary.

Visiting speakers—Dr. L. E. Vredevoe, Alberta Teachers' Association guest speaker; D. R. Cameron, Department of

Education; S. J. Norris, Faculty of Education; J. D. McFetridge, Alberta Teachers' Association.

Superintendent—A. E. Kunst.

Convention theme—Social Relationships of the Teacher.

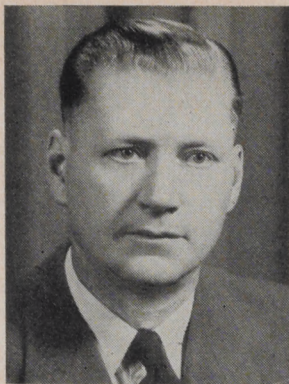
Hanna—November 3 and 4 at Hanna High School

Locals—Acadia and Sullivan Lake.

Convention officers—Percy Cochran, Hanna, president; Mary Laverty, Hanna, secretary.

Visiting speakers—Dr. L. E. Vredevoe,

Alberta Teachers' Association guest speaker; A. B. Evenson, Department of Education; Dr. E. W. Buxton, Faculty of Education; J. D. McFetridge, Alberta Teachers' Association.



A. B. EVENSON



P. COCHRAN

Superintendents—W. G. Hay and C. M. Ward.

High school inspector—L. W. Kunelius.

Form of convention—General and group sessions.

Entertainment—Banquet and dance.

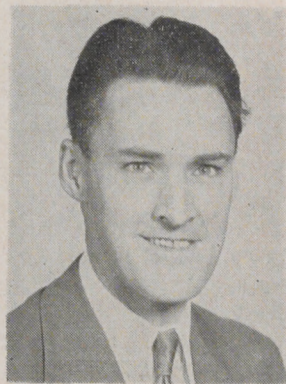
Southeastern Alberta—November 6 and 7 at Medicine Hat Composite High School



T. G. FINN



B. J. SMITH



E. McKENZIE

Locals—E.I.D., Foremost, Medicine Hat, and Medicine Hat Rural.

Convention officers—B. J. Smith, Redcliff, president; Edwin McKenzie, Medicine Hat, secretary.

Visiting speakers—Dr. L. E. Vredevoe, Alberta Teachers' Association guest

speaker; A. B. Evenson, Department of Education; Dr. T. G. Finn, Faculty of Education; Eric C. Ansley, Alberta Teachers' Association.

Superintendents—O. P. Larson, J. A. McKay, and L. D. Nelson.

High school inspector—C. B. Johnson.

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(c) "THE MILKY WAY TO MORE PROFITS" Cutting unit costs on dairy farms.....	_____	_____
(d) "WATER WORKS WONDERS" Farm water supply.....	_____	_____
(e) "SOMETHING TO CROW ABOUT" Poultry Management.....	_____	_____
(f) "AN OUNCE OF PREVENTION" Animal health is important.....	_____	_____
(g) "FOOD FOR THOUGHT" Conservation farming pays.....	_____	_____
(h) "PLANT IT . . . ENJOY IT" Gardening hints around the home.....	_____	_____
(i) "SWITCH ON THE POWER" Farm electrification.....	_____	_____
(j) "TREES ON THE FARM" Value of woodlots and shelter-belts.....	_____	_____
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DEPARTMENT OF EDUCATION



Official Bulletin

No. 188

Change in Minimum Admission Requirements, Junior Elementary Program

On the recommendation of the Board of Teacher Education and Certification, and with the approval of the Minister of Education, the Faculty of Education has established the following minimum admission requirements for the Junior Elementary (one year) program, to become effective on September 1, 1959. Persons under 21 years of age will be required to hold a high school diploma with a standing of 50 percent or higher in each of the following: English 30, Social Studies 30, and two other Grade XII examination subjects, with an overall average of 60 percent in the four subjects.

The desirability of attaining senior matriculation should be drawn to the attention of high school students interested in teacher education programs. Those who enrol in the Junior Elementary program without senior matriculation are at a disadvantage in that, without senior matriculation, they cannot continue in a second year of teacher education, nor can they secure permanent certification.

Senior matriculation standing is required of those who wish to enrol in the degree program in either the Standard

Elementary or the Standard Secondary route.

New Publications

The following new publications are being distributed to school board offices during August and September. Any teacher who fails to receive the bulletins he needs should enquire from the superintendent or secretary-treasurer in his area.

Senior High School

Music 10, 20, 30 (1958)
Dramatics 10, 20, 30 (1958)
Latin, French, German 10, 20, 30 (1958)
Course Outlines for Science 10 and 20 (1958)
Art 10, 20, 30 (1958)

Junior High School

Dramatics (1958)
Social Studies-Language (1958)

Elementary School

Classroom Aids for Teachers (1958)

Note

The 1951 Junior High School Curriculum Guide for General Science is out of print. The new interim guide which is being prepared will not be ready for general distribution until September, 1959.

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THE ATA NEWS BEAT

Fall Conventions

The timetable for fall conventions is the feature of this issue. Starting with the Bonnyville-St. Paul Convention on October 6 and 7, the 1958 circuit includes 14 conventions on 20 days.

Syracuse Workshop on Merit Salary Scales

F. J. C. Seymour and J. D. McFetridge attended a workshop on merit rating conducted by the University of Syracuse, July 7 to 11.

CTF Conference

Mrs. Inez K. Castleton, R. F. Staples, A. D. G. Yates, Eric C. Ansley, and W. Roy Eyres attended the CTF annual conference at Niagara Falls, August 13 to 16.

Banff ATA Conference

The tenth annual Banff ATA Conference was held at the Banff School of Fine Arts, August 18 to 23.

ATA Economic Seminar

The third ATA Economic Seminar for economic consultants was held at the Banff School of Fine Arts the week of August 18.

BCTF Workshop

A. J. Shandro represented the Association at the general workshop and J. D.

McFetridge attended the salary workshop held concurrently, August 25 - 30, in Nelson.

Nova Scotia Teachers' Union Workshop

F. J. C. Seymour attended the NSTU workshop in Halifax as a consultant on collective bargaining, August 26 - 29.

CEA Conference

The annual conference of the Canadian Education Association, held in Victoria, British Columbia, September 16 - 19, was attended by Mrs. Castleton and Mr. Ansley representing the ATA.

Royal Commission on Education

The fall hearings of the Cameron Royal Commission commenced on September 2 in Calgary. Hearings in Edmonton are scheduled from September 8 to 26. The last two hearings will be held in St. Paul on September 29 and in Athabasca on September 30. The Alberta Teachers' Association will complete presentation of its main brief on September 24 and will present a supplementary brief, as requested by the Commission, on merit rating and tenure on September 25.

Executive Council

The Executive Council held a special meeting on Thursday, August 21 at Banff during the Banff ATA Conference. The September meeting is scheduled for Friday and Saturday, September 26 and 27.

NEW BELL AND HOWELL 399

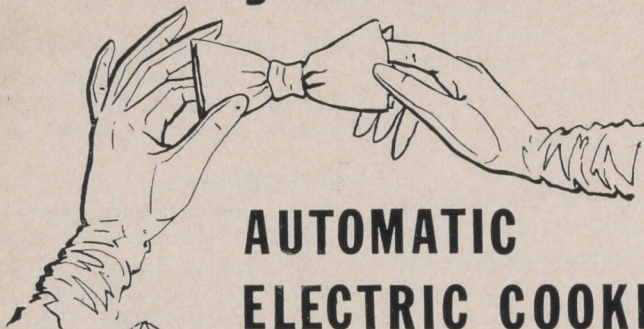
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ATA Golf Tournament

The Mayfair Golf and Country Club, Edmonton, was the scene of the third annual ATA Golf Tournament on Friday, July 18. Thirty-two golfers teed off at 12:30 and the tournament ended with a banquet in the evening. Tentative plans were made to hold a 1959 tournament at either Red Deer or Calgary on Farmers' Day. A section will be provided for teachers' wives and women teachers if there are sufficient entries. Let's make 1959 a bigger and better tournament year!

This year's prize winners were, in Section A: George Lewis, low gross; Bill Matheson, low net; and Bill Montgomery, low gross for the first nine, and Doug Jones, low gross, second nine. In Section B, Ernie Ingram took the prize for low net, and runners-up were N. Brock and R. Albrecht. Section C prize winners were: P. Stefanchuk, low net; A. Selinger, hidden holes; M. Gushaty, low seventh hole; Eric C. Ansley, low eighteenth hole; J. Enns, high thirteenth hole; J. English, oldest entrant; H. B. Doughty, travelled greatest distance (Hammond, British Columbia); and H. Kuharchuk, found most balls.

The executive for the 1959 tournament is Eric C. Ansley, honorary president; Bill Montgomery, president; Bob McNaught, first vice-president; Clarence Richards, second vice-president; Joe McCallum, secretary-treasurer; W. Roy Eyres, tournament captain; and Robert Albrecht, Yngvar Fadum, George Lewis, and Joe Welsh, executive members.

Obedying the rules and ideals of their Junior Red Cross group helps children learn good habits of health, citizenship, and friendliness.

THE MAILBAG

To the Editor—

The Royal Commission on Education wishes to express its thanks to all participating teachers for their wholehearted response to the survey of Alberta teachers, as conducted by the Commission.

I am writing to you in the hope that you might be able to inform teachers of their excellent collective response to the survey and to convey to the teachers the appreciation of the commissioners for their cooperation. Of some 9,500 forms distributed, 9,429 teachers returned a complete copy, well in excess of 99 percent return. This was an unusually high response, which was most gratifying to the Royal Commission.

While it is impossible to state what the findings are, prior to the publication of the report of the Commission, the complete statement will be made available at that time to all interested parties.

Yours very truly,
R. E. REES
Secretary
Royal Commission on
Education
304 Rawleigh Building
Edmonton, Alberta

Editor's Note—We are pleased to have been able to help with what must be an all-time record return for a questionnaire.

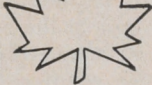
Notice to Local Secretaries

Copies of the local report form and financial statement are being mailed to the secretaries of all local associations. These forms must be completed and returned to head office on or before November 30. No fees will be remitted to locals until these forms have been received.

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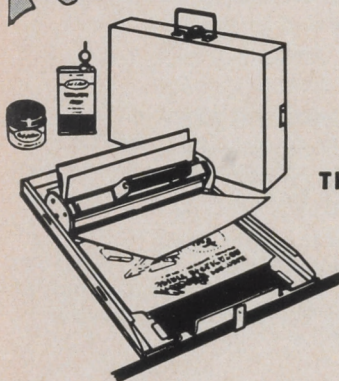
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Q & A

OUR READERS WRITE

◆ *My school board engages me on September 8. Am I a temporary or a regular teacher?*

If you signed a written contract providing that you are engaged for the period from September 8, 1958 to June 30, 1959, you have been engaged as a temporary teacher. If you have received only a letter appointing you to the staff, the school board has engaged you as a regular teacher.

◆ *How is my salary as a temporary teacher computed?*

Your salary will be computed on the basis of 1/200 of the appropriate annual salary rate for each day taught.

◆ *Does The School Act compel me to supervise students during the lunch hour?*

The Revised General Regulations of the Department of Education, Section 13(c)(i) impose on the teacher in a one-room school the responsibility for either supervising the students during the lunch hour or making other reasonable provision for supervision. In multi-room schools the board is responsible for arranging with the principal and staff necessary supervision on mutually acceptable terms.

◆ *I have received notice that I am to be transferred to another school. What can I do if I don't want to accept the transfer?*

Lodge in writing within seven days after receiving the notice of transfer a request with the board for a hearing. If you are unable to convince the board that you should not be transferred, you will either have to accept the transfer or request acceptance by the board of termination of your contract.

◆ *How many days can I teach without affecting my pension?*

If you are 65 years or older, you may be employed as a substitute teacher for a period or periods of not more than 60 days in the aggregate in any one school year.

◆ *I have been told that I must do the janitor work in my school but that the school board will pay me. Is it true that I have to do this?*

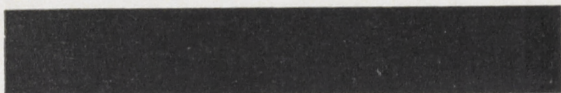
No. Section 368(4) of *The School Act* prohibits a school board from requiring a teacher to perform janitor services.

◆ *I am a teacher from Saskatchewan. Will you please tell me what my qualifications will give me in salary.*

Apply to the Faculty of Education, University of Alberta, in Edmonton for an evaluation of your qualifications. When you receive the evaluation, send it to this office and we can check your salary entitlement.

100

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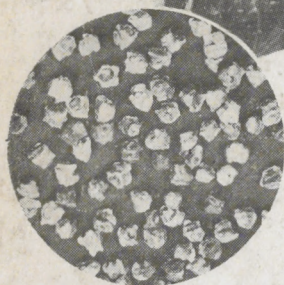
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